

THE ARMY DOCTRINE AND TRAINING

BULLETIN

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ONE ARMY, ONE STANDARD

Captain M.T. Aucoin

THE INTEGRATED FIRE SUPPORT CAPABILITY

An Opportunity for Innovation
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THE CANADIAN ARMY AND FIGHTING POWER

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FROM CHARTERED ACCOUNTANT TO ACADEMIC PROFESSOR

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THE BATTLE OF LEUKTRA

Organizational Revolution in Military Affairs in the Classical World
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UNDERSTANDING SCHLIEFFEN

V.J. Curtis

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A Part of Our History



A soldier from the First Canadian Division stands watch over the English Coast as part of the Home Defence Forces during 1942.

(Image Courtesy Canadian War Museum Collection)



A Paratrooper from 1 Canadian Parachute Battalion sits waiting for a training jump somewhere in England prior to D-Day. Sixty years ago this year, on the night of 5-6 June 1944, soldiers from "1 Can Para," as part of the British Sixth Airborne Division, would be the first Canadian forces to land in Normandy as part of Operation OVERLORD.

(Image Courtesy Canadian War Museum Collection)

A Note from the Managing Editor

by Major S.B. Schreiber

Sixty years ago this year, our forebears in the Canadian Army waded ashore Juno Beach and began what has become an almost mythological event in the history of our Army: the Normandy Campaign. *The Army Doctrine and Training Bulletin* will help to recognize this important feat of Canadian arms in the “A Part of Our Heritage Feature” throughout 2004-5. I would also like to draw your attention to the announcements on the Canadian Battlefield Study Tour, and the Fifteenth Military History Colloquium sponsored by Wilfred Laurier University, included as pull outs to this issue, for those of you who might be interested.

I hope you will take the time to read and think about a number of the interesting articles in this issue, especially on the new Mobile Gun System (MGS). I was also fortunate enough to get a very busy Chief of Land Staff, General Hillier, to pen his thoughts on Army Transformation just before he left to take command of the International Security and Assistance Force (ISAF) in Kabul. His article will be followed in the next issue by highlights from the Interim Army’s Force Employment Concept working paper, which is to outline how the Canadian Army will fight between now and 2010.

The Army is not the only thing in transformation. In order to better reflect the intellectual rigor of this journal, the Editorial Management Board has approved a name change from the old and familiar *The Army Doctrine and Training Bulletin*, to the more precise title of *The Canadian Army Journal*. The name change will take effect for the next issue, so please look for us in your mailbox. The name change will not change our mandate or vision: same focus and content, new and improved name. Actually, the name has historical ties to another publication entitled *The Canadian Army Journal*, published between 1947 and 1965. Plus ca change, plus c'est la même chose.

Please keep sending in your articles, comments, and book reviews. Several papers recently submitted were circulated throughout the Land Staff, with important effect. Others have been forwarded to *The Canadian Military Journal*, and to the Army Lessons Learned Center for publication. I thank all of you who have taken the time, effort, and courage to submit your views.

Major Shane Schreiber
Managing Editor
The Army Doctrine and Training Bulletin



The Canadian Battlefields Foundation
(formerly the Canadian Battle of Normandy Foundation)
announces:



The 10th Annual
BATTLEFIELD
STUDY
TOUR

The Canadians and the Liberation of Normandy
26 May - 12 June 2004

Join Canadian veterans on the 60th Anniversary of D-Day

- ◆ The program includes visits to Vimy Ridge, Beaumont-Hamel and Dieppe before beginning an intensive study of the Canadian role in the Battle of Normandy.
- ◆ Terry Copp, author of two battlefield guide books and *Fields of Fire: The Canadians in Normandy*, will lead the study tour.
- ◆ The program is designed for men and women who are attending university, including graduate school, or are recent graduates, and who have a strong desire to learn more about the role Canadian forces played in the liberation of Europe.
- ◆ Up to 18 students will be selected in a national competition and will each receive a \$3,000 bursary.
- ◆ Each student is expected to contribute \$1,500 towards the costs of the tour.
- ◆ Participants will be expected to prepare for the daily on-site discussions, research the life of a Canadian soldier who died in action and write a journal describing their experiences which will be submitted to the Foundation.
- ◆ To apply, you are required to complete the application form found on the CBNF website.
- ◆ For more information please visit the CBNF website or contact Terry Copp by email, tcopp@wlu.ca

www.canadianbattlefieldsfoundation.ca

Application deadline is 1 March 2004

LGen Charles Belzile, President, Canadian Battlefields Foundation,
Wilfrid Laurier University, Waterloo, ON, N2L 3C5, CANADA
Tel: (519) 885-9518; Fax (519) 885-9524; Email mbechtho@wlu.ca



Army Transformation

Punching Above Our Weight

by Lieutenant-General R.J. Hillier, Chief of the Land Staff

Army Transformation is an exciting and fast moving opportunity that will touch every soldier (I use the term to cover all of us in the Land Force who wear our nation's uniform) and civilian in the Land Force team. It is a change that will see the implementation of the Army Vision and Army Strategy and the development of an immensely capable Land Force component of the Canadian Forces. Army Transformation will lead to a Land Force of which Canadians can be fiercely proud (they already have pride in it-we want them to have more) and one which is visibly relevant to them and to our country. The transformed Land Force will be credible with our friends and allies and capable of being overwhelmingly successful, no matter the mission given it, while reducing the risk to those soldiers actually executing the operation.

Army Transformation flows directly from the Army Strategy issued last year and is a long and well thought-out process. It sets out how we will build sustainable combat forces by bringing in new capabilities, updating some legacy capabilities and using others "as is," while merging them all as a "system of systems" to give a value greater than the sum of the individual parts. Transformation is our means of implementing our strategy, and soldiers will see concrete evidence that we are moving forward-with real, state-of-the-art kit and real, positive change.

Some parts of Army Transformation, such as the Whole Fleet Management System, are driven by the need to manage our resources better in order to be able to do all the individual and collective training necessary while continuing to conduct operations. The most important force driving transformation, though, is the changing nature of the very real threats to stability throughout the world, to Canada itself and to any land component units deployed on missions. What was in previous years described as the asymmetric threat-terrorism, suicide bombers, riots, explosive devices, well-armed militias-has now simply become the threat and, unfortunately, probable. That threat is located mainly where the population is, that is where the bulk of the people live in failed and some developing states. The previously used term of "conventional" threat, that of an attack by another country with military forces, through massed infantry and tanks on land, has now become the asymmetric threat and exceptionally unlikely. Thus, those attempting to de-stabilize different parts of the world, stop us in the execution of given missions or actually harm us during the execution of those missions have to be dealt with by new and more flexible capabilities then did the old, conventional threat. Those threats will have to be dealt with where they will be most common-amongst populations in developing, or failed, states that need our help.

In order to have a Land Force able to execute our missions and defeat those threats, there is much work to be done. Most of that work is captured under the functions we use to group the things we do-Command, Sense, Act, Sustain and Shield. Other initiatives extend across all of those functions. Two examples of changes that transcend all the functions include the move from a force employment structure, where each of our units was designed to roll out of garrison, with its kit, ready to go to war, to a force generation structure where units will be responsible to develop their headquarters, build strong, cohesive sub-units for operations and command a variety of them in any operation when tasked. It will be extremely unlikely that an entire, specific battalion or regiment would be used as the force for a mission since we will tailor any possible task force exactly to the requirement. Thus, depending on the mission, a task force will be built using the best mix of command, sub-units and other capabilities, be they infantry (light or mechanized), direct fire, indirect fire, recce, etc. The second example is the collective training concept we will execute primarily at the Canadian Manoeuvre Training Centre (CMTC) in Wainwright, Alberta, where we will practice putting all these new capabilities together, in the face of the new threat, to get the powerful synergy of all the capabilities working together. We'll execute that training starting from the fall of '05 with a full Weapons Effect Simulation system that will permit us to train to a realistic level never possible in our army, ever. We'll learn the lessons with the help of an observer/controller organization and an after action review process, and we'll have our mistakes highlighted for us by a small, but well equipped, trained and capable "OPFOR," who will have free rein to try to win. We will exercise four battle groups, with at least two of them as part of a brigade exercise, each year.

Other specific functions include implementing the digitized command and control system to permit an almost unimaginable command capability at all levels up to and including brigade. We'll get away from maps and all the inherent errors and challenges they brought with them-frozen map talc, labels falling off, wrongly plotted grids, information having to be constantly re-copied and sent or given to someone else-and get to a picture, copied digitally from commander to soldier, that replaces a thousand words. We'll bring into service, and indeed have already started doing so, an intelligence, surveillance, target acquisition and reconnaissance (ISTAR) capability using enhanced electronic warfare components, unmanned aerial vehicles, target acquisition radar, unattended ground sensors and more. Most important in this "Sense" function will be the ability, once information has been obtained, to analyze and turn it into true knowledge for commanders

and soldiers. In short, we want to find information first, use it to understand the situation first and, as a result, be in a position to be able to act precisely first, with overwhelming power, before any opponent or enemy is capable of doing so.

Having a hugely increased ability to command based on knowing, not guessing, the situation allows a commander and his or her soldiers to act precisely, with the right weapon, lethal or not, at the right time, to achieve the right effect. Our ability to act in our transformed Land Force is built around the best weapon system in our army, one that is not propelled on tracks or wheels but moves on boots—our soldiers. I remained convinced that the well led, trained, equipped, organized and motivated Canadian soldier will continue to be the most high tech weapon in the world. We will build our support for our soldiers around the Light Armoured Vehicle (LAV) III. This capable vehicle can be fought as a weapons platform, protect our infantry while they are in it, or fight with them dismounted around it. Acquiring a direct fire platform equivalent to the LAV III is needed. The Leopard tank, while a very capable system (which I personally, after many years on it, love) is less relevant for what we do now than previously. The strong qualities of a Leopard parked in Valcartier or Edmonton are useless to the soldiers in Kabul, Eritrea, Bosnia or anywhere else we need direct fire. In some cases, we can't get it there since it is too heavy for the C-130 to lift, in other places (such as the streets of Kabul), it cannot manoeuvre and in other situations (e.g., on peace support operations), it would be de-stabilizing to deploy or employ it. The Mobile Gun System (MGS) mounting the standard NATO 105 mm gun gives us the direct fire capability in a manner and on a platform that we can and will deploy. There are many other parts of Army Transformation wrapped in the "Act" function, from the acquisition of "fire and forget" missiles that will allow us to be effective at about the 2000 m range and concentrate our Tube-launched, Optically-tracked, wire-guided (TOW) missiles for long-range fire to the employment of MGS and the TOW Under Armour (TUA) on its LAV III chassis with the Air Defence Anti-Tank System (ADATS) as a direct fire sub-unit that can reach out and kill anything that appears up to 8 km away. In short, a world class, battle winning direct fire capability.

In the "Sustain" function, we will build upon the changes that come with the Whole Fleet Management system, where our major fleets and equipments will be concentrated based on three priorities. Priority One will be an op stock, either in Montreal or actually deployed on operations. This will comprise sufficient stock for a brigade combat team, with one light battalion (two light companies of kit, plus one LAV III company), a mechanized battalion (two LAV III companies, one light company worth of kit), a Coyote squadron, command, support and engineer vehicles. This will stop the practice of units going on Roto "Zeros" with all their equipment and vehicles and then doing without them for the next five years because the mission carries on after their redeployment. It also permits us to maintain, at the highest readiness with the latest modifications, those vehicles designated for ops. Priority 2, with essentially the same equipment suite as Priority 1, will be stationed in CMTC in Wainwright. We cannot afford to send a brigade's worth of vehicles to Wainwright for each rotation (it cost \$7 million to do it for Brigade Exercise 03) and we also cannot constantly change the weapons effects simulation kits from one vehicle to another. When a unit or brigade shows up at CMTC for a rotation, they will fall in on the kit there. The third priority, but one that will also be met, will be to have sufficient vehicles at home training areas to facilitate training to sub-unit level. Thus, within the brigade, we will have the equivalent of a company of vehicles for each unit, and training will have to be scheduled to bring each company, from individual soldier to the full company, to readiness using them. Those vehicles will be of sufficient numbers to also allow the conduct of normal domestic operations. Combat team, battle group and brigade training will take place at CMTC. Simulation, already prevalent, will be utilized to the maximum, in a more coherent fashion, to facilitate all training, but particularly that of headquarters and staffs. Along with those initiatives, the replacement of the medium logistics vehicle wheeled (MLVW) will permit us to radically change the way we handle combat service support as is now being studied by the Army Support Review.

Army Transformation means the transformation of the entire Army—regular and reserve components,

supported by the civilian team. Land Force Reserve Restructure Phases I and II will give us more capacity in the reserve component and more capability. Make no mistake, we will ask more and more from our reservists, from operational commitment to training support to close recce to numerous specialties which they, and they alone, will have. While we have used reservists in large numbers in the past several years, there is much more to be done from training funds to personnel support to equipment availability for the reserve component of the Army. We will mature our Managed Readiness program (Army Training and Operations Framework) to include all the brigades, regular and reserve, seek more personnel for support to their units and give reservists more opportunity to develop their unique skills by teaching courses, participating in training or deploying on more operations. They will utilize the vehicle and major equipment fleets for training in a similar manner to the regular component.

Army Transformation is about much more than modernization projects, updating doctrine or improving specific training. I could discuss pieces of it for pages but, in essence, transformation is about capturing and using the advantages of a variety of modern systems orchestrated in concert. Some of what we are doing will be changed in implementation, and there will be unforeseen problems and challenges. The work to resolve those problems and the end result will be worth it. On a good hockey team, the defence may be good, power play ok, penalty killing strong, the goalie consistent and the regular lines decent, but in combination, as a motivated group, well practiced, with a wily coach, excellent equipment, and more knowledge of their opponents next moves than the opponents themselves have, the team will be a Stanley Cup winner every time. With those advantages, even the Leafs could do it. We certainly can.



From the Directorate of Army Doctrine

The Future Battlegroup in Operations

by Lieutenant-Colonel L.B. Sherrard

EDITOR'S NOTE

This paper is a modified first draft of "Chapter 1—Introduction" to the re-write of Battle Group Operations (to be B-GL-300-014/FP-001). I have received the kind permission of its author, Lieutenant-Colonel Lloyd Sherrard, of the Directorate of Army Doctrine, to allow me to publish it in the ADTB for consideration and comment. It is a significant document not just because it is part of one of the Canadian Army's two leading doctrine manuals (the other, Brigade Group Operations [to be B-GL-300-013/FP-001], is due out next year) but also because it introduces some of the significant doctrinal changes that have been recognized and adopted by the Canadian Army. It is both a reflection of the lessons learned during the past decade and an attempt to look forward into the future. As part of ADTB's commitment to invigorating the professional debate over the future of the Land Force, I thought it important to publish this piece for our readers' appraisal and comment. I have left the text for the most part in the same form as will eventually be found in the manual. Although some may find the prose less than flowing, one should remember that the intent of this work, in the final analysis, is to act as a keystone manual and to guide instruction. Its merits, therefore, hinge on its accuracy, brevity and relevance and not on its eloquence. The aim, ultimately, is to come up with the best possible ideas and doctrine upon which to base our future fighting forces. Your comments are welcome to either the ADTB, to LCol Sherrard at DAD direct or, preferably, to both.

INTRODUCTION—GENERAL

The further back you go, the less useful military history becomes.... We are in no position to apply [it] to the wholly different means we use today.

DIMENSIONS OF MODERN WARFARE

Twenty-first century warfare, or warfare in the information age, presents the most complex, technically challenging and diverse form of conflict in the history of mankind. Conflict will be multi-dimensional and will be prosecuted in and from the air, land, sea, space and the electromagnetic spectrum.

At the tactical level, success in battle will be predicated upon the optimizing of situational awareness, flexibility of action and thought, adaptability and initiative at all levels of the battle group. Operations will be conducted in the face of myriad threats, on varied terrain, and the battle group must be able to conduct all types of operations, from warfighting to domestic operations.

In response to the dimensions of modern warfare, the Chief of the Land Staff has directed that:

The Army will generate, employ and sustain strategically and tactically decisive medium-weight forces. Using progressive doctrine, realistic training and leading-edge technologies, the Army will be a knowledge-based and command-centric institution capable of continuous adaptation and task tailoring across the spectrum of conflict.

In conjunction with the aforementioned strategy, Canada's Army must be able to provide expeditionary forces of value to a joint force and coalition partners, most likely led by the United States. These expeditionary forces must be rapidly deployable, modern, interoperable and sustainable. The battle group would be an integral part of either a joint or coalition expeditionary force.

THREAT

The geopolitical situation has made the force-on-force based concept of threat determination virtually unusable. The modern threat determination is based upon capabilities and intentions rather than on size of force. Sources of conflict will include ethnic unrest, religious extremism and regional territorial disputes, to name a few. War may be waged by nation states, but will most likely involve non-state actors including failed states, terrorist organizations, criminal organizations, environmental and anti-globalization groups. Adding to the complexity of possible threat groups is the potential proliferation of weapons of mass destruction (WMDs) throughout the world. Any confrontation involves the possibility of the use of these weapons.

Many, if not all, of the possible threats will be seriously disadvantaged in a conventional war against a modern, technology-based, information-centric armed forces such as that of the United States. The threat, perforce, will be required to adopt unconventional means to have any chance of success. This will lead to the concept of asymmetric warfare.

Asymmetric Warfare. This can be defined as:

In the realm of military affairs and national security, asymmetry is acting, organizing, and thinking differently than opponents in order to maximize one's own advantages, exploit an opponent's weaknesses, attain the initiative, or gain greater freedom of action. It can be political-strategic, military-strategic, operational, or a combination of these. It can entail different methods, technologies, values, organizations, time perspectives, or some combination of these. It can be short-term or long-term. It can be deliberate or by default. It can be discrete or pursued in conjunction with symmetric approaches. It can have both psychological and physical dimensions.³

In summary, the most likely enemy to the battle group will resort to a means of warfare that will emphasize his strengths while attacking the weaknesses of the battle group. Organization, tactics, doctrine, morale, politics, social and religious mores and psychology are among the areas that the enemy may exploit as weaknesses. One common example is the terrorist utilizing his ability to blend in by collocating with innocent civilians as a strength while utilizing our aversion to collateral damage as a weakness.

The threat, therefore, will present the battle group with challenges across the spectrum of belligerents, from a single suicide bomber to massed armoured formations. All facets of the battle group have the potential to be targeted both physically and psychologically and with lethal and non-lethal weapons, up to and including WMDs.

TERRAIN

War will not take place in the open field, if only because in many places around the world there no longer is an open field.⁴

Another major consideration concerning modern conflict is the changing nature of the terrain on which we fight. The first factor

Region	1890	1910	1930	1950	1970	1990
USA	35	46	56	64	70	75
Japan	30	40	48	56	71	77
Western Europe	35	45	55	63	72	78
Latin America	5	7	17	41	57	71
USSR	12	14	18	39	57	66
Africa	5	5	7	15	23	34
China	5	5	6	11	17	33
South Asia	5	8	12	16	21	28
World	14	18	23	29	37	43

Figure 1-1: Urban Proportions—Percent of Total Population, 1890–1990⁵

one must consider is the rapid pace of global urbanization. Figure 1-1 provides a snapshot of this phenomenon over a one hundred-year period.

The growth of urbanization continued to accelerate in the last decade of the twentieth century, and by 1998 it was estimated that 47 percent of the world's population lived in cities.⁶ Should this trend continue, and all evidence indicates that it will, by 2020 approximately 60 percent of the global population will be urbanized. It is clear that a battle group will encounter a significant amount of urban operations. Adding to the complexity of urban terrain is the fact that many major cities are also major ports, thus the battle group will require a sound capability to conduct littoral operations as well.

The global aspect of the threat has appreciably increased the potential location for conflict and hence the terrain on which battle will occur. Expeditionary forces must be prepared to deploy to previously unanticipated locations with unfamiliar terrain. The battle group could be expected to conduct operations in all types of

terrain including arctic, mountainous, desert, forested, jungle, open terrain and/or a combination of these types. These variations, mixed with cities, will require battle groups that are multi-faceted and capable of seamlessly adapting from one terrain to another. Figure 1-2 is an example of the possible deployment areas considered by one expeditionary force, The United States Marine Corps. While it is acknowledged that American interests are commensurate with its role as a superpower and therefore greatly exceed those of Canada, the United States remains our most significant ally and the one most likely to lead a coalition with Canada as a member.

In all types of terrain, the modern battlefield will vary considerably in terms of a linear structure. "Options available range from a linear framework with clearly defined geometry and lines with contiguous units and deep, close and rear boundaries, to a less precisely structured framework where units might not be adjacent to one another and have no linear relationship."⁸ Although contiguous, linear battlefields may be encountered, the modern

threat and the varied terrain lead to the conclusion that the battle group most likely will be faced with a non-linear, non-contiguous battlefield. The lack of mutual support, poor observation, restricted fields of fire and other factors will place added importance on initiative down to the lowest practical level.

In summary, the battle group will conduct operations on what can be termed **complex terrain** most of the time. This is not to say that there will not be conflict on open terrain, nor does it imply that all complex terrain is the same. Each type of terrain presents particular challenges, which elicit specific doctrinal responses from the battle group for dealing with those challenges.

Western Hemisphere	Middle East/ SW Asia	Africa	Asia/Pacific	Europe/ Mediterranean
Colombia	Bahrain	Algeria	Afghanistan	Denmark
Costa Rica	Egypt	Angola	Bangladesh	Greece
Cuba	Iran	Djibouti	Burma	Italy
Dominican R.	Iraq	Ethiopia	India	Norway
El Salvador	Kuwait	Kenya	Indonesia	Turkey
Grenada	Lebanon	Liberia	Japan	Yugoslavia
Guatemala	Libya	Madagascar	Malaysia	
Haiti	North Yemen	Namibia	North Korea	
Honduras	Oman	Somalia	Pakistan	
Jamaica	Qatar	South Africa	Papua NG	
Mexico	Saudi Arabia	Sudan	Philippines	
Nicaragua	South Yemen	Tunisia	PRC	
Panama	Syria	Uganda	South Korea	
Peru	UAE	Zaire	South Pacific	
Suriname		Zimbabwe	Spratly Is	
Venezuela			Sri Lanka	
			Vietnam	

Figure 1-2: The Expeditionary Environment⁷

OPERATIONS

Types of Operations

The Vice Chief of the Defence Staff has promulgated a set of eleven force planning scenarios (FPS) for the Canadian Forces.⁹ The Army has adopted a “four corners” approach to these planning scenarios by focusing on four key scenarios as follows:

Brief explanations for each scenario are:

- ◆ Overseas non-combatant evacuation operations (NEOs) in which the major Army contribution is a company (sub-unit) size element to assist in the security, evacuation and transport of Canadian citizens.

- ◆ Major domestic operations in which the major Army contribution is formation level (area and/or brigade group) elements and the ability to command and control at the operational level within a joint, inter-agency and possibly combined operating environment. Likely tasks will cover the entire spectrum of operations: humanitarian assistance, assistance to law enforcement agencies, aid of the civil power.

- ◆ Complex peace support operation in which the major Army contribution is a battalion or battle group under the auspices of either Chapter 6 or 7 of the UN Charter.

- ◆ Warfighting operation in which the major Army contribution is a brigade group.¹⁰

Although the scenarios are listed separately, there are distinct overlaps among them, and it is possible, indeed quite probable, that the battle group may be required to conduct facets of each type of operation simultaneously. This phenomenon is called the “three block war” and has been described as:

In one moment in time, our service members will be feeding and clothing displaced refugees—providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart—conducting peacekeeping operations. Finally, they will be fighting a highly lethal mid-intensity battle. All the same day, all within three city blocks.¹¹

Battle groups will have to be well versed in the conduct of all types of operations and have the inherent flexibility to adapt to changing circumstances throughout any specific operation. The “three block war” has already been experienced in many past operations and will continue.

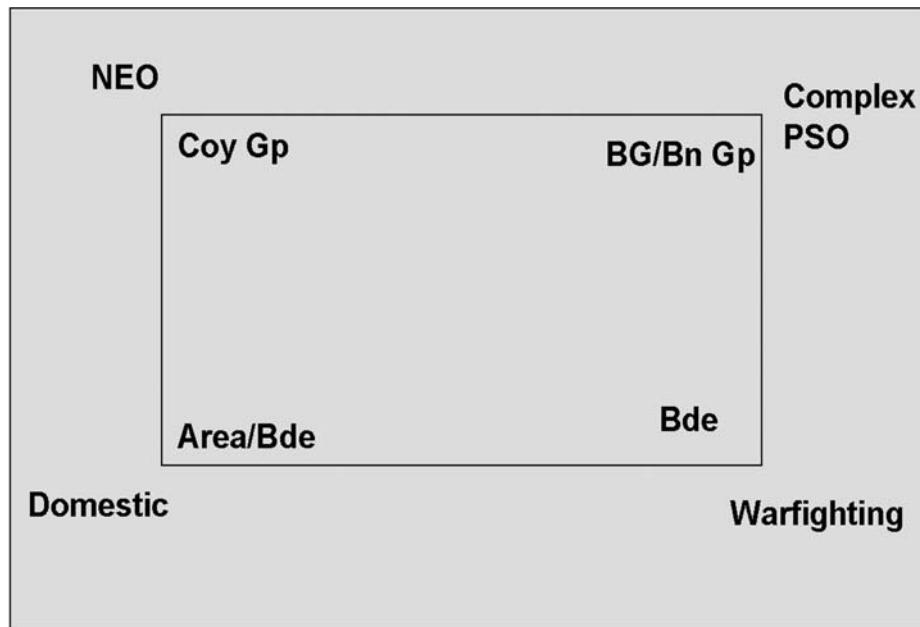


Figure 1-3: Four Corners

DOCTRINE

Our troops in East Timor adapted well to peace enforcement duties largely because they were thoroughly prepared for warfighting operations. In the profession of arms, one can trade downwards, but one can never trade upwards.¹²

Despite the requirement to be prepared for all types of operations and to be able to change quickly from one to another, the primary doctrinal focus for the Canadian Army will remain war-fighting. Experience has shown that successful armies are those that understand and practise war-fighting skills. War-fighting is the most difficult operation, and proficiency in this type of operation translates to success in other types of operations.

It is most probable that Canadian troops will conduct war-fighting operations only as part of a coalition, and this coalition is likely to be led by the United States. It is imperative, therefore, that the battle group understands the major war-fighting concepts of the United States, which are also shared by the majority of our other allies.

Most important are the concepts of manoeuvre warfare and mission command.

Manoeuvre Warfare. Manoeuvre warfare is an operational concept that calls for the defeat of the enemy by destroying his cohesion and will to fight. It attacks both the physical and moral plane of the enemy with a focus on his critical vulnerabilities. As an operational concept, it is beyond the scope of a battle group, however, operational success will be achieved through a manoeuvrist approach at the tactical level. Battle groups must do the unexpected, use initiative, be original, perform at a tempo faster than that of the enemy, act boldly and decisively and demonstrate a ruthless will to win. This type of warfare requires a decentralized command climate, in which the subordinate feels free to use tempo and initiative to meet his superior's aim. This is called mission command.

Mission Command. In order for mission command to succeed, all members of the battle group must understand the commander's intentions and aim, and there must be the agility and/or flexibility within the battle group to respond to changing circumstances while still achieving the aim. "Mission orders allow commanders, at all levels, to react to situations and to capitalize as they arise. The commander directs and

controls his operation through clear intent and tasks rather than detailed supervision and control measures or restrictions."¹³ The adoption of mission command also allows the Canadian Army to take advantage of our cultural tradition of expecting and stressing initiative from our very well trained junior officers and NCOs.

Consideration of the accepted principles of war and an understanding of the operational functions that are intrinsic to combat power greatly facilitate the conduct of manoeuvre warfare.

PRINCIPLES OF WAR

The principles of war are described in B-G 300-000/FP-000 Canada's Army. They are:

- ◆ Selection and Maintenance of the Aim.
- ◆ Maintenance of Morale.
- ◆ Offensive Action.
- ◆ Surprise.
- ◆ Security.
- ◆ Concentration of Force.
- ◆ Economy of Effort.
- ◆ Flexibility.
- ◆ Co-operation.
- ◆ Administration.¹⁴

The principles of war apply to the battle group as they do to each platoon/troop and higher formation. To exploit fully the fighting potential of the combined arms team, commanders are guided wisely by these principles. The situation dictates the relative importance of each principle, and in some cases, commanders need to adhere more stringently to some principles at the expense of others. Their challenge is to know where to place the emphasis at any given moment.

The principles of war are neither a panacea nor a replacement for common sense or ingenuity. Rather, they are a "checklist" for the battle group commander to ensure that no

principles are disregarded due to oversight. Blind obedience is not expected, in fact it is discouraged, however random disregard will result in almost certain failure.

OPERATIONAL FUNCTIONS

From the principles of war, one can develop critical functions that are necessary to take a manoeuvrist approach to operations. These operational functions are:

- ◆ **Command.** Command is the critical operational function and the nexus of all activities. Command integrates all the operational functions towards the attainment of the operational goal.
- ◆ **Sense.** This function integrates sensor and sensor analysis capabilities into a single concept and breaks previous sensor/information stovepipes.
- ◆ **Act.** This function integrates manoeuvre, firepower and offensive information operations to provide an integrated model for understanding the concentration of effects on an enemy. This is a shift from an emphasis on method (platforms) to the desired moral and physical end-state (effects).
- ◆ **Shield.** This function will move beyond the traditional aspects of physical force protection to address issues on both the physical and moral planes. Shield is seen as an operational enabler that allows commanders freedom of action and efficiency.
- ◆ **Sustain.** This function is seen as an operational enabler linking all sustainment activities on both the physical and moral planes, from the lowest tactical entity all the way to national support capabilities.¹⁵

Only through the close interaction of these functions can the battle group optimize its capabilities and achieve success. The key ingredient to the proper utilization of the operational functions is realization that Command

and Sense are continuous and common to all functions.

OPERATIONS OF WAR

The battle group participates in all operations of war, namely offence, defence and delay. These operations are linked by transitional phases, which include advance, meeting engagement, link-up, withdrawal and relief of troops in combat.

Battle group tactics in all operations of war are discussed in detail in future chapters.

BATTLE GROUP COMPOSITION

General

Battle groups are the tactical manoeuvre units of a formation. They can be part of a Canadian brigade, a coalition or a joint formation. Due to the aforementioned complexity of the threat, terrain and operations, there is no one organization that will meet the demands of the modern battlefield. Accordingly, Canadian battle groups will be task tailored to meet specific operational necessities.

Task Tailoring. From a Canadian Army perspective, there are two types of tailoring: strategic and tactical. Strategic tailoring is the organizing of forces in strategic locations that best answer the national requirements for the Army. This is accomplished through the area structure. For operations these organizations could be further tailored to meet the overall strategic requirements of a specific theatre or area of operations. Tactical tailoring is the mission specific organizing of troops and is how Canadian battle groups will be formed for operations.

Within the Canadian Army, there are 12 virtually identical battalion headquarters organizations, each capable of providing the command structure for the formation of a battle group. The battle group will be structured in a modular fashion, combining the capacity for all five operational functions. The exact configuration of the battle group will

depend on the mission, effects desired and the tactical context. For international contingency operations, the resultant organization is termed a tactically self-sufficient unit (TSSU), which will be fully interoperable and capable of forming part of a coalition.

The sub-unit or task element will be the basic building block for all TSSUs and will have the organic capability to conduct assigned tasks. These task elements will be placed under the command of a battalion headquarters to form the battle group. The command, sense, shield and sustain aspects of the battle group would, in most cases, be very similar, regardless of the operation. Major changes would be based on the effects required on the battle group, thereby having the greatest effect on the act operational function.

The following scenarios are included to provide clarification of the concept of task tailoring:

- ◆ **Scenario One.** Canada has agreed to provide a battle group as part of a US brigade in a war-fighting operation against a threat force that is equipped with armoured and mechanized formations and uses conventional methods of warfare. In this instance, a mechanized infantry battalion headquarters may be tasked tailored simply by adding an armoured squadron to its three mechanized infantry companies.
- ◆ **Scenario Two.** Canada has agreed to provide a battle group as part of a larger peace support operation. The mission is to bring stability to the country by providing security to major population areas, assist in the re-building of infrastructure and by finding and defeating the remaining elements of the anti-government force. These elements are likely to use guerilla tactics but on occasion may utilize conventional type forces. In this case the same mechanized infantry battalion headquarters as in scenario one may be tasked to command the battle group, but in

this instance the battle group may consist of a mechanized infantry company, a light infantry company, a coyote squadron, an engineer squadron and an artillery battery.

In both cases the battle group structure uses the same command element, but the task elements are based on the effects required. The above organizations are not meant to be doctrinal solutions to the scenarios but to give an example of the range of possibilities on the modern battlefield.

Roles, Tasks and Tactical Employment of Arms

Battle group commanders must understand the roles, tasks and tactical employment of all arms and services in order to exploit their full potential. Roles, tasks and tactical employment of the various arms and services in the battle group are described below.

All arms and services utilize all operational functions in order to conduct operations to best efficiency. However, each arm and service possesses certain characteristics that make it most suitable for specific operational functions on the battlefield. The operational function that the arms and services are asked to perform will be either mission specific or a result of tasks given within a mission.

ARTILLERY

Field Artillery

Role. Field artillery contributes to the defeat of the enemy by indirect fire. Field artillery generally provides a component of the **act** operational function but also has characteristics that support the **sense** and **shield** functions.

Artillery provides various types of fire support:

- ◆ close support;
- ◆ attrition;
- ◆ interdiction; and
- ◆ counter-battery.

Artillery also performs coordination and target acquisition.

At battle group level the main tasks of artillery are close support and coordination:

- ◆ **Close Support** is the timely, intimate fire support provided to the battle group. It may include the provision of advice, observation, liaison and communications.
- ◆ **Coordination** of all sources of indirect fire support is a responsibility of the artillery commander. A close support battery commander and forward observation officers (FOOs) are normally located with the battle group. The battery commander at battle group headquarters and the FOOs at company headquarters provide the requisite coordination advice and liaison to ensure that the battle group receives optimum benefit from all the fire support resources available. Battery commanders and FOOs can be placed OPCON or TACON to the battle group, depending on the freedom of movement and independence required.

The battle group benefits from the fire of general support artillery. Destruction, harassing and suppression of such targets as headquarters, reserves, air defence weapons and, in particular, enemy artillery helps to preserve the battle group commander's freedom of manoeuvre and gives him a greater scope for initiative.

Close Support. Indirect fire programmes in support of the battle group include:

- ◆ fire plans in support of offensive operations;
- ◆ defensive fire plans;
- ◆ engagement of opportunity targets; and
- ◆ provision of smoke and illumination.

Tactical Employment. Important considerations in the tactical

employment of field artillery are:

- ◆ Artillery is commanded at the highest level and controlled at the lowest. Movement of guns is usually a formation responsibility, whereas fire is controlled by FOOs at sub-unit level.
- ◆ The fire of field artillery, mortars, rockets and other indirect fire weapons should be fully integrated and controlled by the battery commander.
- ◆ Forward observation officers and fire controllers (FCs) are located forward but remain with the sub-unit to which they are attached.
- ◆ Indirect fire is concentrated to achieve the best results.
- ◆ Fire planning must be simple to ensure flexibility.
- ◆ Indirect fire is used to contribute to, rather than prejudice surprise. Stereotyped application of fire is avoided.
- ◆ Whenever possible, mortars provide illumination and smoke, thus freeing artillery for defensive fire tasks.

Air Defence Artillery

Role. Air defence artillery prevents enemy aircraft from interfering with land operations. Air defence artillery has a primary focus toward the **shield** operational function but has characteristics that allow it to support the **act** function.

Air defence artillery performs the following tasks:

- ◆ early warning;
- ◆ protection;
- ◆ attrition; and
- ◆ airspace control.

Tactical Employment. Air defence is an all-arms responsibility in the battle group. Most weapons are effective against enemy aircraft and are normally used in self-defence. In addition, battle groups may be allotted short-range air defence (SHORAD) systems for specific tasks. Short-range

air defence systems are further subdivided, according to system characteristics and capabilities, into close air defence weapon systems (CADWS) and area air defence systems. Important considerations in the tactical employment of these systems at battle group level are:

- ◆ **Close Air Defence.** Close air defence weapon systems should be employed for point defence of defiles, headquarters or concentrated sub-unit locations such as attack positions, assembly areas or hides. A CADWS section can defend one point, and should not be split up to perform more than one task because neither task would be properly performed. The section has limited communications and is vulnerable to enemy ground attack. The battle group must keep it informed of enemy activity and provide it with protection when necessary.
- ◆ **Area Air Defence.** These systems, such as air defence anti-tank system (ADATS), can give area defence for the battle group. While manoeuvring with the battle group, ADATS may provide air defence by following at least one bound behind the leading elements. These systems are vulnerable to ground attack and may require protection from the battle group.

Command and Control. Air defence artillery fire is controlled at the highest practicable level and is governed by rules of engagement. These rules are established by the theatre commander and disseminated to sections in operations plans, orders and standing operating procedures (SOPs). For SHORAD, the final decision to engage a target is vested in the detachment commander.

ARMOUR

Tanks

Role. The tank defeats the enemy by the aggressive use of firepower and battlefield mobility. The primary operational function for tanks is act with a significant capacity to sense and

shield.

Tasks. The major tasks of tank units are:

- ◆ participate in covering force actions;
- ◆ the advance to contact;
- ◆ attacks;
- ◆ exploit the effects of weapons of mass destruction;
- ◆ participate in the pursuit; and
- ◆ participate in the defence, primarily as the manoeuvre force in counter-attacks and blocking actions.

Tactical Employment. Important considerations in the tactical employment of tanks are:

- ◆ normally, the smallest fire unit is the tank troop;
- ◆ the smallest manoeuvre group is the tank squadron;
- ◆ tanks do not operate alone but fight with infantry and other arms;
- ◆ all movement should be supported from a firm base;
- ◆ tanks make the best use of ground for their protection; and
- ◆ tanks or anti-tank weapons systems support infantry-some tanks, supported by infantry, are held in reserve to influence the battle.

Armoured Reconnaissance

Role. Armoured reconnaissance obtains and relays timely information about the enemy and the ground and contributes to battlefield security. The primary operational function for armoured reconnaissance is sense with a significant capability to shield and a lesser capability to act.

Tasks. At battle group level the major tasks include:

- ◆ surveillance of obstacles, gaps and rear areas;
- ◆ route reconnaissance in the advance and for counter-attack

and blocking operations;

- ◆ flank screens;
- ◆ movement control;
- ◆ radiation and chemical monitoring; and
- ◆ utility tasks to include:
 - ◆ liaison,
 - ◆ escort duties,
 - ◆ headquarters/logistic area guards,
 - ◆ refugee control,
 - ◆ area and point reconnaissance, and
 - ◆ picqueting of vital points or bypassed enemy.

Tactical Employment. Important considerations for the employment of reconnaissance troops are:

- ◆ the smallest manoeuvre element is the reconnaissance patrol;
- ◆ observe without being detected;
- ◆ make and maintain contact;
- ◆ report accurately and maintain communications;
- ◆ avoid decisive engagement; and
- ◆ confirm enemy dispositions.

INFANTRY

Role. Infantry closes with and destroys the enemy. The primary operational function for infantry units is to act with a significant capacity to sense and shield.

Tasks. The major tasks of the infantry are as follows:

- ◆ destroy the enemy in close combat;
- ◆ hold ground;
- ◆ form part of the covering force;
- ◆ act as all or part of a reserve with a task to counter-attack or block;
- ◆ conduct airmobile operations;
- ◆ establish surveillance and conduct patrols;

- ◆ conduct security tasks; and
- ◆ exploit the effects of weapons of mass destruction.

Tactical Employment. The basic tactical sub-unit of the infantry is the company. It should be split only in exceptional circumstances. The major considerations for the tactical employment of infantry are as follows:

- ◆ **Mobility.** Mechanized infantry is completely mobile, regardless of terrain or weather conditions, as it can be employed in mounted, dismounted or airmobile roles in all operations. On foot infantry is slow and limited to the weapons, equipment and ammunition that it carries.
- ◆ **Firepower.** The mechanized infantry battalion, and to a lesser extent the mechanized company, is independently capable of seizing and holding ground with a full range of personal and support weapons. The firepower of vehicle-mounted weapons is fully exploited in support of dismounted infantry. Infantry weapons combine with and complement the firepower of the battle group. Infantry medium range anti-armour weapons (MRAAWs) form the basis on which the anti-armour system is built and supplement the fire of heavier, longer-range systems
- ◆ **Protection and Security.** The LAV III offers limited protection to mechanized infantry, which must rely on concealment, cover, use of ground and covering fire for protection while mounted. Troops are most vulnerable when dismounting and thus require covering and supporting fire. The infantryman relies on fieldcraft fire and movement and the fire support from armour and artillery for protection. The infantry attains the greatest protection from field fortifications. Sub-units establish observation posts (OPs) and conduct patrols for protection and security.

◆ **Flexibility.** The mechanized infantry battalion is a flexible fighting unit. Its rifle companies move in LAV III, on foot or by helicopter and can be rapidly grouped. Speed and flexibility in infantry actions are maintained by keeping the unit intact and not detaching sub-units and support weapons.

DIRECT FIRE WEAPONS PLATFORMS

Role. Direct fire weapons platforms destroy enemy armour and armoured vehicles. The primary operational function of direct fire weapons systems is to act with significant, and close secondary capacities to **sense** and **shield**. These platforms include the Mobile Gun System (MGS), the MMEV V1,¹⁶ and the TOW Under Armour (TUA).

Tasks. These are:

- ◆ fire into designated kill zones;
- ◆ fire in close support of sub-unit positions;
- ◆ cover gaps between sub-unit positions;
- ◆ support counter-moves operations;
- ◆ support covering forces and guards;
- ◆ assigned surveillance tasks; and
- ◆ sniping.

In addition to the traditional anti-armour tasks listed above, the mobility and firepower of all the systems-most notably the MGS-allows the direct fire weapons platforms to be employed on tasks usually associated with tanks. However, consideration must be given to the degradation of protection between these systems and the tank. The enhanced mobility provides the commander with the capability to take advantage of increased situational awareness to deploy these systems in such a way that the lack of protection is overcome by agility,

flexibility and positioning.

Tactical Employment. Important employment considerations are:

- ◆ Killing zones should be divided into short, medium and long range engagement bands, and direct fire weapon platforms must be coordinated with all other anti-armour resources.
- ◆ Weapons fire control states may be established for each sector of the killing zones.
- ◆ All anti-armour sub-units within the battle group must be able to communicate directly with one another.
- ◆ Where possible MGS should be employed as complete units or sub-units. However, complex terrain may lead to the requirement for smaller elements to provide intimate support to infantry.
- ◆ Maximum effect is achieved by putting all direct fire systems under centralized control.

ENGINEERS

Role. Engineers assist the Land Force to live, move and fight on the battlefield and work to deny the same to the enemy. Engineers may also be employed as infantry when required. Therefore, the primary operational function for engineers is to **shield**, with a secondary function of **act**.

Tasks. The major tasks undertaken by engineers fall under the following headings:

- ◆ **Mobility:**
 - ◆ reconnaissance of obstacles and routes;
 - ◆ filling craters, removing blowdown, clearing abatis and breaching anti-tank ditches;
 - ◆ breaching minefields;
 - ◆ clearing debris, barricades and rubble within cities in support of urban operations;
 - ◆ preparation of crossing sites,

- including the provision of bridges, ferries and boats; and
- ◆ maintaining and improving roads, fords and crossing sites.
- ◆ **Counter-Mobility:**
 - ◆ creation or improvement of barriers, particularly anti-tank ditching, laying of minefields; and
 - ◆ bridge demolitions, road craters, abatis, creating rubble, mining and the demolition of utilities or facilities.
- ◆ **Survivability:**
 - ◆ digging assistance;
 - ◆ reinforcement of strongpoints and observation posts;
 - ◆ advice and assistance in concealment, counter-surveillance and deception plan tasks;
 - ◆ advice and assistance in the construction of wire obstacles;
 - ◆ reinforcement of positions in built-up areas and wooded areas by improving observation and fields of fire and developing passive obstacles; and
 - ◆ clearance of booby traps.
- ◆ **General Engineer Support:**
 - ◆ provision of potable water;
 - ◆ support of area decontamination operations; and
 - ◆ provision of engineer intelligence.

Tactical Employment. The major considerations for the tactical employment of engineers at battle group level are:

- ◆ Battle group commanders must judge what balance to strike between the technical advice

offered by the engineer adviser and their tactical plan.

- ◆ Battle group commanders should be prepared to provide protection parties for engineers.
- ◆ The decision to employ engineers as infantry must be made judiciously. Nevertheless, there will be situations where such employment is necessary.

SIGNALS

Role. Signals provide commanders and their staffs with communications and deny the enemy's use of the electromagnetic spectrum by waging electronic warfare (EW). The reliance on communications and information networks allows signals to have significant responsibilities in the conduct of **command, sense, act and shield** operational functions.

Tasks. The tasks of Signals at battle group level do not differ from those at formation level except that administrative support of the headquarters and local defence is a collective responsibility of all members of the headquarters not solely Signals. Signals' tasks at battle group level are:

- ◆ provision of advice on all communications and EW matters;
- ◆ operation, engineering and first line maintenance of battle group command and control information systems (CCIS) including combat net radio, automatic data processing (ADP), line and dispatch riders (DRs);
- ◆ execution of the formation signal security plan; and
- ◆ control and distribution of frequencies and signals security (SIGSEC) material within the battle group.

Tactical Employment. Important considerations in the tactical employment of Signals in the battle group are:

- ◆ Signal troops/platoons integral to the battle group headquarters are small and have limited manpower

and resources. They may require augmentation to perform such functions as the laying of line and expanded DR services.

- ◆ The signal troop/platoon, regardless of its size, must provide continuous and reliable communications.
- ◆ While mobile battle group operations normally rely on combat net radio as the primary means for providing command and control, battle group commanders must be prepared to use every means available to minimize the use of combat net radio in conditions of electronic warfare (EW). The use of detailed orders, briefings, personal contact, liaison officers (LOs), DRs, and line will be the preferred methods of communications during some operations.
- ◆ The battle group signal officer must be included early in the planning of operations, especially if regrouping, sustained operations or long communicating distances are involved. In these cases, he will be required to plan for additional frequencies which are non-interfering, allocation and distribution of low level codes for attached units, coordination with the gaining or losing unit signal officer and formation signal squadron, special resupply procedures for low level codes and deployment of radio rebroadcast stations. The operation of war will also determine which type of alternate communications should be used in place of combat net radio in an active EW environment.
- ◆ Formation headquarters will provide communications to the battle group in the form of secure combat net radio, DRs and line. Formation may also provide on an attached or in-location basis, line or radio relay detachments to ensure communications to the battle group. This will pose special siting, positioning, resupply and maintenance problems which must

be resolved by the battle group. Specialized signal elements such as EW detachments may be in location of the battle group. On these occasions coordination must be effected with the battle group headquarters responsible for the area.

TACTICAL AVIATION

Role. Tactical aviation supports the Army with aerial firepower, reconnaissance and transportation. It carries out the act, sense and shield operational functions and supports the command and sustain functions.

Tasks. The tasks assigned to tactical aviation are:

- ◆ reconnaissance and observation;
- ◆ direct and control fire (Air OP, forward air controller [FAC]);
- ◆ anti-armour and other fire support;
- ◆ tactical airlift of troops, equipment and supplies;
- ◆ mine laying;
- ◆ logistic airlift;
- ◆ command and liaison;
- ◆ aero-medical support; and
- ◆ communications assistance.

Tactical Employment. Important considerations in the employment of tactical aviation at battle group level are:

- ◆ Helicopters will rarely be attached to individual battle groups. They may, however, be tasked in

response to battle group requests to carry out specific missions. In these circumstances, they are coordinated through the Fire Support Coordination Centre (FSCC) in a manner similar to other in-location elements.

- ◆ Attack helicopters are invariably retained under formation command but may support battle group operations.
- ◆ Reconnaissance helicopters are highly vulnerable to enemy air defences and to enemy armed helicopters. They are not normally tasked to operate near the forward edge of the battlefield. In their reconnaissance and air CIP roles, tasks should be selected which make full use of their ability to move quickly over long distances or difficult terrain rather than needlessly exposing them on tasks which can be carried out by ground observation.
- ◆ Transport helicopters are particularly useful for supporting logistics tasks and troop movement, however, they are extremely vulnerable when operating in forward areas. Subsequent tasks, such as casualty evacuation, should be identified to make use of aircraft returning from forward areas on completion of their primary tasks.

operations. They are primarily responsible to conduct the sustain operational function.

Tasks. The major tasks of the administrative echelons are:

- ◆ provide battle replenishment of combat supplies;
- ◆ provide routine first line replenishment of combat supplies and other commodities;
- ◆ provide first line repair and recovery;
- ◆ provide first line medical services and evacuation;
- ◆ provide first line personnel services;
- ◆ provide first line transport;
- ◆ coordinate arrangements with the higher formation logistic organization for the delivery forward of the daily battle group requirements; and
- ◆ coordinate arrangements with the higher headquarters administrative staff for the provision of bath, laundry and decontamination services.

ADMINISTRATION

Role. Administrative echelons provide first line combat service support (CSS) to the battle group in



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Directorate of Army Training Update

It is all about Reconstitution: The Support-Reconstitution and Training Phases of ATOAF

by Major J.R. McKay

The following is a letter home from a young officer:

1 September 2004

Dear Mom and Dad,

I thought I'd write about my first year at the battalion. Things were not quite what I expected. I arrived and reported in to battalion headquarters to the Adjutant. Or I would have, if he wasn't still on leave after having been posted in. I ended up reporting to the Assistant Adjutant instead. He paraded me before the CO. I was so nervous I didn't hear everything the CO said. I remember something about the end of Reconstitution, but apart from that, nothing! After my blissfully short interview, the Assistant Adjutant took me to see the OC. He was away on a French course and the 2IC wasn't there either, as she was off to Kingston to Staff College. There I was thinking for a minute that on my first day in the field force, I might be the Officer Commanding a rifle company. No such luck, I was dreaming the dream when the CSM appeared and said "Easy there, sir; you're not the OC. The LAV Capt is the acting OC." I left company headquarters in search of Lt X. I found him minutes later. He welcomed me, and brought me up to speed on the company's activities and my new "platoon." It wasn't exciting for the immediate future—maintenance!

I put the word "platoon" in quotes for a reason. I was expecting at least thirty troops and discovered that I had ten! My Platoon 2IC is a Master Corporal! Seven of the ten had just arrived at the battalion like me! The platoon was not a hollow shell—a number of tasks took away a lot of soldiers and almost all of the NCOs. Several were filling driver tasks for the Reserves or Cadets, a number were training new recruits at the Area Training Centre and a couple had medical categories. I had a section plus. Some of the troops have taken to calling us "Number Three Plection." I soon discovered that we were starting with IBTS (read as: individual battle task standard training or testing/refreshing all the soldier skills) and then some low-level dismounted training. The other platoons were in a similar state.

Shortly thereafter, my platoon began to fill up again. The tasks ended and so did the individual training for a lot of soldiers. Some of the Corporals completed their Junior NCO training, and others qualified as LAV (light armoured vehicle) drivers or LAV gunners. Finally I could crew all the LAVs! Almost all of the positions within the platoon were filled. You have no idea what a relief this was to me—we started a mechanized exercise the week after!

Having said all that, we were gearing up for another tour in the sunniest war-torn region of Europe, the former Yugoslavia, next fall, hence the return of personnel and the mechanized exercise. We experienced a series of these exercises over the fall and winter in preparation for an all-expenses paid trip to Wainwright for the brigade training event. The return of personnel appeared to be based on the fact that we have sufficient numbers of drivers, gunners and communicators within the platoon. In fact, we had twice the required number. This scared me—I have a sneaking feeling that if I have a surplus of anything, it will vanish. Around here, Nature appears to abhor a surplus more than a vacuum. The Warrant said that

it was nothing to worry about and that it was built-in redundancy for operations. I'm still not sure about that—a surplus can be a dangerous thing!

My next few months were to be spent in training—in the field with soldiers! Wainwright was interesting. I got to learn a great deal about operating within a combat team. Wainwright is the home of the Canadian Manoeuvre Training Centre, and they provided a number of Observer-Controllers to assist with the training. I thought they were like umpires, but they also ran the combat team through a series of AARs (After-Action Reviews). These first appeared to be self-congratulatory conversations, but after what the OC called "the Battle of Scheisse Hill," that illusion was shattered. I was glad it wasn't me, but sure learned a big lesson that day about the selection of routes for a platoon! Several spandrels later, 2 Platoon ceased to be. It was a long but valuable exercise. I am a lot more confident than I was on Phase IV about being a mechanized platoon commander. It makes sense to me now. As a student, I learned to imitate the demonstration without necessarily understanding what I was doing, but experience has filled in that gap. I suspect that this has been the case for centuries with junior officers...

The platoon is now at its full establishment for the first time since I arrived almost two years ago. As we are about to finish our peace support operations training, we have received augmentation from the Reserve Force. Some of them are less experienced than their Regular counterparts, but they are more than willing to learn and work. The NCOs are ensuring that their teams function smoothly regardless of who is actually in the team. The supplemental training provided to the augmentees before they arrived seems to have brought them up to a basic standard, and experience will fill in the rest. By the same token, I think that what I am writing about the augmentees, my NCOs might think of me. I hope. So far, they still offer advice and challenge the odd command. I can only conclude that I'm getting better at leading.

We spent most of last week learning about the former Yugoslavia and the local conditions. Those that have already been (and they are in the majority) are somewhat bored. Next week we start our peace support operations exercise—the Warrant said that this one is always interesting.

I had an interesting conversation last week. I started on "send" and the Senior Subaltern put me back on "Receive." It all started in the mess and I stated my opinion about this new "Army Training and Operations Framework"—I am against it as I remember all too well what it was like to not have a full platoon and how hard it was to train. The Senior Subaltern reminded me that the main effort of that phase is to support the Army's tasks (especially individual training) or be trained, and collective training was therefore secondary. Furthermore, he stated, that when he first arrived, it was always the case that somebody was tasked out. Instead of losing troops in one set period, he said, there was no predictability! At least now we know when we are going to be raided for troops. I'm not sure I agree with his arguments, but discretion being the better part of valour, I stopped arguing.

My next letter will be postmarked from Europe. Take care and I will stay on the proven routes.

Love,
Me

The subaltern's letter illustrates the tension within the Army Training and Operations Framework (ATOF). It is geared as a system of managed readiness that seeks to link individual and collective training to produce a combat capability over time. This, however, does not necessarily match the expectations of the field force. There has been a great deal of feedback received from the field force about the utility of ATOF and managed readiness based on two arguments. The first argument is based on unforeseen commitments, and addressing this goes beyond the scope of this article. The second argument is based on the effects of the Support-Reconstitution cycle on a unit. This argument emanates from a clash of definitions of reconstitution.

to restore a desired level of combat effectiveness." This leads one to conclude that ATOF is all about reconstitution! Two of the three phases of ATOF are dedicated to reconstitution as the intent is the rebuilding of combat capability after it has been consumed in operations and the requirement to progress personnel through the force. Units are involved in supporting reconstitution or are reconstituting until the next operation, be it domestic or international.

For clarity's sake, the Army has chosen to break the reconstitution activities into two phases. All of the individual training associated with preparing the unit personnel for collective training occurs in the Support-Reconstitution Phase. All

professional development. This is a difficult and tumultuous time as the Army tends to task personnel out in support of training or send personnel off to be trained.

The Support-Reconstitution is the phase where the units will experience the greatest personnel flux. There are several reasons for this. First, like the young officer and seven soldiers, personnel are posted in. It is ideal, under the rubric of ATOF, that personnel emerging from basic training are posted in at the end of the Support-Reconstitution Phase but personnel returning from the training system are posted in at the start of the Support-Reconstitution Phase. Second, personnel are also posted out from the unit. By the same token, at the completion of the

ATOF... is geared as a system of managed readiness that seeks to link individual and collective training to produce a combat capability over time.

SUPPORT-RECONSTITUTION

Many have taken to claiming that there is no reconstitution in that cycle. This is not necessarily true, and the problem seems to lie in an understanding of the definition of reconstitution. The popular definition carries with it the expectation of rest. Some might view rest as nothing more than being able to stay within the garrison and execute low-level activities, while others might view rest as being able to train within the unit context. Land Force Sustainment states that reconstitution is: "... an extraordinary action planned and implemented to restore a desired level of combat effectiveness to units or formations. Above all, a reconstitution operation is a combat operation. It occurs after a unit or formation has been in combat and suffered a high level of casualties ..." In our case, the high level of casualties does not necessarily apply, but the first statement certainly does—"an extraordinary action ...

of the collective training associated with preparing the unit for operations occurs in the Training Phase. The problem creeps in when one term is mistaken for another. It may be the case that people have made an association between the term "reconstitution" and rest. The latter is well deserved and needed by all. When personnel return from operations, there is a natural expectation that they will not have to be tasked away again within Canada. Unfortunately, that is not always the case.

The young officer in question arrived fresh from the training system to his battalion at the end of the Support-Reconstitution cycle. Naturally, significant numbers of the platoon's key leaders were tasked out in support of other activities, especially individual training. By the same token, most of the soldiers were tasked out in support of other activities. Some of the battalion's key appointments were also empty due to the requirement for

operation and/or the end of the High Readiness Phase, the augmenting reservists will have returned to their units. This would allow for personnel stability in the Training and High Readiness cycles. These factors will cause the manning level to drop and more chaos from the unit perspective.

Due to the personnel state being in flux, it is necessary to match personnel to training to prepare for subsequent activities (i.e., the Training and High Readiness Phases of ATOF). The majority of this matching comes through individual training. Such training is required to rebuild the Unit Qualification List (UQL) in preparation for future forecasted operations. The UQL is a means of controlling the quantity and type of training within a unit. Ensuring that it is filled (in terms of sufficient personnel with the right type and level of training) is the main effort of the Reconstitution Phase. In the example provided in the letter, the platoon's contribution to the UQL is to have

double the number of LAV drivers, gunners and communicators to ensure redundancy for operational purposes.

TRAINING PHASE

The main effort in this phase is collective training. Individual training should have been completed in the Support-Reconstitution Phase and should be kept to a minimum to allow the unit to focus on Levels Two through Four of collective training. Collective training is intended to build teams and team competency at executing particular tasks. The young officer will begin the work-up training (for example, the section and platoon mechanized exercise) within the garrison and, as the year progresses, will gain experience and greater competence as part of a team (in this case, the platoon). The team will develop competency in a series of battle task standards (BTS) and be rolled up into a larger team to train on the next level of training. The trip to Wainwright for the brigade training event at the end of the Training Phase will allow the unit to train at Levels Five and Six and train as part of a brigade at Level Seven.

The platoon commander in this case was subjected to training within the garrison before being subjected to the Canadian Manoeuvre Training

They are the proverbial currency of collective training and provide guidance for what tasks should be trained at what level. It cannot be understated that despite the confusion, no unit should be called upon to become proficient at every task in the list of applicable BTS on an annual or cyclical basis. This statement is even captured in every BTS manual. For example, the Armour BTS states that:

Although the battle tasks listed in this manual are those which squadrons, troops or patrols could be required to perform in operations, resource and time constraints will make it impractical to train on each battle task during every training cycle. Before the beginning of the training cycle, Commanding Officers and Squadron Commanders, in conjunction with their higher commander, must identify the high priority battle tasks which they will train for and be evaluated upon during the upcoming training cycle. Factors to be considered in the identification of high priority battle tasks include:

- ◆ the higher commander's direction/guidance;

- ◆ any other factors which the element commander and the higher commander decide are relevant.

Once the high priority battle tasks are decided upon, it is the responsibility of the higher commander to ensure the required resources, in accordance with the Field Training Regulations, are made available. Any shortfall in resources should, under normal circumstances, result in an adjustment to the battle tasks to be trained for and evaluated, not a reduction in the standards.³

This seems to suggest that even in training, mission analysis and the estimate process need to be applied at all levels.

Yet the challenge with the Collective Training Phase is for all levels of command to articulate the requirement in terms of BTS. To ensure success at CMTC, it is necessary to identify the relevant BTS for the Training Phase as early as the Support-Reconstitution Phase. This is due to the linkage between individual training (making the team members capable of contributing to the execution of collective tasks) and collective training. Ideally, the UQL

Land Force Sustainment states that reconstitution is: ... an extraordinary action planned and implemented to restore a desired level of combat effectiveness to units or formations.

Centre (CMTC), the after-action review (AAR) and training in a weapons effects simulation (WES) environment at the brigade training event. The key difference in a WES environment is that the training environment bears a stronger resemblance to actual combat: the "friction" and "fog of war" set in and provide all sorts of complications.² This, of itself, provides more training and experience for soldiers and leaders alike, as they must adapt to changing situations to defeat a thinking enemy.

The assignment of BTS provides the guidance for collective training.

- ◆ a mission analysis and estimate for any upcoming operations;
- ◆ the current level of training;
- ◆ any weaknesses identified as a result of previous evaluations and training;
- ◆ the length of time since training for each battle task was last conducted;
- ◆ the introduction of new doctrine or equipment;
- ◆ the resources and time available; and

should be sufficiently robust to cover all possible contingencies, but in reality, it will need to be shaped with every ATOF cycle and forecasted missions. The early assignment of BTS should ensure that the individual training and low-level collective training in the Support-Reconstitution sets the conditions for success in the Training Phase (i.e., the team members are trained sufficiently to form teams and develop greater proficiency in their assigned and implied tasks). This may require a case where the mission is assigned and the resources are allocated, and then commanders (and

their staffs) seek to preserve these as much as humanly possible unless the forecasted mission changes. In most cases, this is as simple as insulating the field force from the higher commanders and staffs so that the teams are built and develop competency in the assigned BTS for the forecasted mission. If the

Deputy Chief of the Defence Staff (DCDS) Group provides the funds for reserve augmentees to attend collective training for operations (typically six months ahead of the deployment) but not the general-purpose warfighting collective training. Furthermore, given the demographics of the Reserve Force,

chaos experienced by units has been intensified but limited to one phase as opposed to spread throughout. It is necessary to do this to serve the aim of reconstitution, which is, after all, an extraordinary action to restore a desired level of combat effectiveness. This is achieved by supporting the training of others,

The young officer's letter ... illustrates the clash between the member's expectations and the effects of a system of managed readiness.

mission changes over time, then so should the training. However, there is an institutional mechanism for insulating the field force. Collective training in the Training Phase is devoted largely to general-purpose warfighting.

The process of preparing for operations is not complete after the brigade is confirmed at Level Seven. The units must prepare for specific missions and this is addressed through theatre mission specific training (TMST). This encompasses both individual and collective training and is intended to provide knowledge or skills necessary to operate in unique environments or with specific mission conditions. It builds on the foundation of general-purpose warfighting and allows for tailoring for specific requirements or changes to the mission. In some cases, this may require lower level elements to retrain on particular BTS in order to execute them successfully in conditions vastly different from those on the brigade training event.

In addition to this, reserve augmentees arrive at the unit prior to operations to round out the unit's manning states. Ideally, augmentees should arrive at the end of the Support-Reconstitution cycle like the newly generated junior officers and soldiers in order to be integrated into the unit during the Training Phase. This, however, is not the case due to funding and manning issues. The

the pool of volunteers may shrink significantly if the full-time commitment for operations became two years instead of one. The team, having been built and confirmed, must now absorb additional members who, on average, have less experience at the tail end of the Training Phase and the start of the High Readiness Phase.

THE SYNERGY OF RECONSTITUTION

The young officer's letter offered the perspective of someone entering the Army having to live within the limits set by ATOF. It illustrates the clash between the member's expectations and the effects of a system of managed readiness. New members will have varying perspectives on ATOF as it becomes an established part of Army life. As it starts, the new recruit or officer cadet will have a perspective shaped largely by the training staff. The imprinting of expectations and cultural norms will occur, and as members of the field force re-enter the training systems as trainers, different expectations and norms will be passed onto new soldiers. As identified by the senior subaltern, the

filling the UQL to prepare for collective training and then engaging in collective training up to and including Level Seven. These activities are vital to the provision of forces for operations, and they are all a form of reconstitution.



ENDNOTES

1. B-GL-300-004/FP-001 *Land Force Sustainment*, Chapter 9, "Reconstitution Operations," p. 81.
2. For more on "Friction" and the "Fog of War," see Karl von Clausewitz, *On War* (Chicago: University of Chicago Press, 1943), pp. 53-56, and Barry D. Watts, *Clausewitzian Friction and Future War* (Washington: National Defense University, Institute for National Strategic Studies, 1996).
3. B-GL-383-002/FT-009 *Armour Battle Task Standards*, Introduction, p. ii.

One Army, One Standard

by Captain M.T. Aucoin

Training is a great art: There are principles of training just as there are principles of war.

Field Marshal Bernard Montgomery

Today in the Canadian Army there are nine principles of training that guide the way in which the Army designs, implements and validates the effectiveness of its individual and collective training systems. “Train to One Standard” is the third principle in that list and for good reasons. Imagine for a moment if there were no quality or measures serving as a basis or example to which a soldier could be expected to conform. The end results are only too predictable. This is the reason why most organizations continue to recognize a need to develop and standardize those core competencies (knowledge, skills and abilities) that distinguish the military from other professions in addition to ensuring that the right tools are in place to guarantee that the required qualities and measures are, in fact, being met. Having realized that there was a need within the Army to improve its standard’s framework, the Army Council, on 3 December 1999, accepted the proposal to implement an Army-wide standards structure under the authority of the Commander Land Force Doctrine and Training System (LFOTS) to assist in the process of standardizing individual training throughout the Army—“One Army, One Standard.”

LAND FORCE COMMAND STANDARDS ORGANIZATION

Prior to 1999, it was recognized that although there was a certain amount of standardization activity taking place throughout the Army, it tended to exist under a somewhat fragmented structure with no nucleus or single agency available to provide the necessary focus or economy of effort, hence individual training tended to drift in several directions. In order to address this problem, a Land Force Command standards organization was created at the strategic level to provide the necessary overview of all individual training activities being conducted throughout the Army, whether training was being conducted on the armoury floor in Victoria, B.C. or at a training centre in Atlantic Canada. To achieve this end-state, a Command Chief Standards Officer (CCSO), CCSO CWO and CCSO Coordinator were appointed and tasked with the responsibility of unifying the current activities and efforts of all the existing standard organizations within the Land Force.

The LFC Standards Organization is co-located with LFOTS HQ in Kingston, Ontario with LCol J. Servais, CCSO and CWO J.B.N. Trepanier, CCSO CWO providing the necessary focus and vision with assistance from the four Area Chief Standard Officers (ACSOs) and the various other organizations within Combat Training Centre (CTC) and the centres of excellence. Unfortunately, like all organizations that have undergone changes over the past couple of years, the ultimate acceptance and success of this new organization cannot be achieved unless its mission and roles are well communicated and understood by the people and organizations that it is meant to serve.

That is the primary focus of this article—to improve communications and to de-mystify the stigmas and myths that are often associated with standards. Currently, an Army based website for standards is in the process of being developed and should be implemented in the very near future. This website will contain the mission and vision of the LFC Standards Organization, which are as follows:

Mission. Maintain oversight on individual training activities across the Army and provide advice to the Comd LFOTS on all issues relating to the implementation of “One Army, One Standard.”

Vision. A dedicated team of highly motivated professionals providing effective communications, assistance and coordination to those involved in the delivery of one standard of Army individual training in order to ensure that our soldiers are acquiring the right level of knowledge and skills.

Goals:

- ◆ Promote the awareness and the importance of maintaining one standard of training throughout the Army.
- ◆ Develop and maintain effective communications and cooperation between all organizations involved in the delivery of individual training.
- ◆ Enhance our assistance and support to all individuals tasked as instructors.
- ◆ Provide awareness of the tactical, operational and strategic effectiveness of Army individual training at all levels from Development Period (DP) 1 to DP 4.

The biggest misconception surrounding standards is the actual role that it plays within the training system. Like

all organizations, roles and responsibilities will vary depending upon the level of command with which that organization is associated. In the Army, there are three levels of standards: strategic, operational and tactical. The LFC Standards Organization is a strategic level organization, and its main role and responsibility is to ensure that unity exists throughout the various standard organizations.

To achieve this aim, four CWOs were appointed as Command Standard Organization Representatives (CSOR) and assigned to each of the four areas-Land Force Western Area (LFWA), Land Force Central Area (LFCA), Secteur du Québec de la Force Terrestre (SQFT) and Land Force Atlantic Area (LFAA). The CSORs act as the eyes and ears for the CCSO and ultimately the Comd LFDTs and the CLS on all issues pertaining to standards. Unlike the area training centres, the area reserve standard detachments and the

centres of excellence, the chain of command for the four CSORs is linked directly to the strategic level of command. Although, this may leave a cloak and dagger impression of the CSORs, this misconception could not be any further from the truth. In reality, the CSORs are responsible for ensuring that the proper policies, procedures, qualification standards, training plans and courseware are being followed in the delivery of all Regular and Reserve Force individual training regardless of location. In addition, the CSORs are responsible for providing advice and assistance to all area and course staffs as well as providing an open door counsellor/mentor service to all students if required. The four CSORs are as follows:

- ◆ LFWA—CWO G. Foley, Wainwright, CSN 530-1014 or 780-842-1363, ext 1014;
- ◆ LFCA—CWO G. Cooke,

Meaford, CSN 260-6835 or 519-538-1371, ext 6835;

◆ SQFT—Adjuc J. Boivin, Valcartier, CSN 666-7570 or 418-844-5000, ext 7570; and

◆ LFAA—CWO C. Kitching, Gagetown, CSN 432-4089 or 506-422-2000, ext 4197.

Although the LFC Standards Organization is relatively new, it has already begun to implement a number of crucial changes, the largest change being the way in which all standard organizations evaluate individual training. Effective this year, all standard organizations, both Regular and Reserve Force, have been mandated to begin utilizing the new Land Force Command's Standards' Visit Evaluation form. The bilingual version of the form is currently available within the CCSO folder located on Documentum. In addition, this form will act as the central feature to the website that is currently under construction. If you have any questions or concerns regarding the implementation of standards within the Army, please feel free to contact Capt M. AuCoin, CCSO Coord, CSN 271-4626 or 613-544-5010, ext 4626.

The army, training to one standard.



With a US Army Blackhawk helicopter in the background, Canadian soldiers in a LAV III keep a watchful eye over the Kabul Airport as part of OP ATHENA.
(Photo courtesy DND DGPA—Combat Camera)



The Integrated Fire Support Capability

An Opportunity for Innovation

by Lieutenant-Colonel J.A. Summerfield

Lead, follow or get out of the way.

These words from Lee Iacoca have and continue to immortalize the drive for excellence within businesses, governments and militaries in the Western world. While all countries and militaries would like to be world leaders in all capacities, realism dictates that one cannot afford to lead in everything always. Even the United States, the sole remaining “super-power”, while never having yet to “Get Out of the Way”, has had to, with great reluctance, “Follow” others in both innovation and, to a smaller degree, in technology.

Canada and the Canadian Army have a choice. In these times of great change and upheaval, what is Canada going to do? Are we going to lead in the areas we can and add to the capabilities and advancements of our allies? Are we going to just follow the US or other allies and sit back and accept their innovation, technology, methods, and ideas outright with a minimal and/or token contribution? Or are we going to just get out of the way and slide into obscurity and irrelevance? Obviously, one would hope that the first

countries to lead in most areas, the natural inertia that large size brings can reduce their innovative and technological agility in many areas. The large size of the US Army, while it allows simultaneous tracks to be followed also presents a much larger political target and more opportunity for innovation and inventiveness to be stifled by bureaucracy, tribalism and pre-conceived ideas.

On the other side of the scale are the smaller countries with more limited budgets. Here innovation is done at a smaller scale and normally in niche areas. It is within these niche areas that the smaller countries can come to the fore. The innovative and technological agility of a smaller Army, if it is disciplined enough to overcome tribalism and become truly innovative. Oddly enough, much of this agility stems from its lower funding or resource base. Without large resources available, innovation and getting the most from available systems is a necessity and almost a way of life in smaller countries militaries. Also, since the number of systems required by smaller forces is usually much lower, the demands can present less of a political target. The Canadian

In these times of great change and upheaval, what is Canada going to do?

path would be chosen and, within the limited resources available, become a productive and useful contributor. Unfortunately, in many areas we appear to be moving ever closer toward the two later paths.

Innovative and technological leadership within military circles can be broadly looked at from two different sources. The first and most expected source comes from what can be described as the “brute force” method. This is normally associated with the large modern militaries with commensurately large research and development (R&D) and procurement budgets. It works on the basis of being able to fund a great number of initiatives while having the luxury to select those that are most promising and being able to afford the discarding of those that are less promising. A classic example of this was the recent US Joint Strike Fighter competition where two different and competing prototype aircraft were funded and a “fly-off” competition was held to select a winner. In contrast, even the combined resources of the multi-national European consortium for the Eurofighter only funded a single concept. While the sheer scale of effort allows the large

pioneering the ship-borne helicopter in Anti-Submarine Warfare and more recently, the COYOTE surveillance systems are prime examples of how smaller countries can lead the world in certain select areas if they choose. At the same time, a smaller military must be aware of the pitfalls when attempting to deal with larger complete systems. The larger the system, no matter how technologically innovative or advanced they may be, the larger the target for external influence. The AVRO ARROW and BOBCAT APC projects are prime examples. Thus the inherent flexibility that a small size can, if carefully nurtured and focused, be used to great advantage to improve the innovative and technological agility in select areas.

The current move to a “medium-weight” more strategically mobile force, as announced in the Chief of the Land Staff (CLS) statement to the Senate—Commons Defence and Veterans Affairs (SCONDVA) Committee¹ in 2001, is a case in point. This move is in line with the future plans of all our major allies and the subject of much R&D effort. The Army has conducted experiments² situated around the 2020 timeframe and concluded that a LAV sized multi-mission

effect vehicle (MMEV) could be effective. The MMEV is depicted as a single chassis capable of performing a variety of roles through the use a variety of munitions and the integration with other vehicles and sensor platforms through common data-links. In essence it becomes a system of systems linking the sensor and shooter to allow the most appropriate and effective system to engage any given target. The MMEV is akin to the US Army Future Combat System concept envisioned for the same time frame. The attributes of the MMEV type of system have been the focal point of numerous papers and briefings by the senior Army leadership on the Army strategy for the future force³. The requirements stated by senior Army leadership includes a substantial not iterative improvement over existing capabilities, the acceptance of risk during the transition, a reduction in the numbers of different types of systems to reduce personnel, training and sustainment costs as well as the need for more precision multi-purpose munitions that can increase the capabilities of the force while reducing collateral damage. All this is to kick start the shift from the current platform-centric Army based on Cold War doctrine to an information/command-centric force for the 21st century.

moving through an interim step between their current structure to one equipped with FCS by forming STRYKER Brigade Combat Teams (SBCTs). The SBCTs are based on LAV III chassis variants to bridge the strategic mobility gap between their heavy legacy forces (equipped with M1 Abrams/Bradley/M-109/MRLS) and their light non-mechanized forces. The SBCTs also provide a transition test-bed for FCS concepts.

The massive scale of funding and other resources available to the US Army allows them to simultaneous field at least four SBCTs⁴ and develop the FCS⁵. The scale of the FCS projects could lead one to think that there was little a small Army such as Canada's could add little and that the best we



**GDLS (GM Defence)/DELCO/RO 120 mm
Armoured Mortar System (AMS)**
(Photo courtesy General Dynamics)

have the firepower to allow it to go to war."⁶ However, innovation and bold use of existing resources can reap huge benefits in niche areas and can allow a large contribution to the efforts of our allies. This in turn greatly increase the possibility of influencing the final designs within the larger allied projects to include items more compatible to our requirements.

The announcement by the Minister of National Defence (MND) that the legacy "heavy" combat systems (LEOPARD tanks along with the M-109 medium self-propelled (SP) howitzers) were to be relegated to reduced readiness and not replaced with a similar capability and that political and funding influences will probably have a larger influence than purely military criteria on final decisions is not surprising nor unexpected in light of the move to a lighter force⁷. However, the more recent announcement that 50 Light Armoured Vehicle (LAV) STRYKER 105 mm Mobile Gun Systems (MGS)⁸ were likely to replace the current LEOPARD 1 as the Army's future primary Direct Fire Support Vehicle (DFSV) seems to contradict the goals stated earlier. The adoption of a 105 mm MGS will not make the Canadian Army less dependent on specialized systems and to accrue the manpower, training, logistical and cost savings possible from a more a multi-

...opportunity for innovation and inventiveness [can] be stifled by bureaucracy, tribalism and pre-conceived ideas.

Getting from today's Army based on legacy systems designed to meet the Cold War threats to a future Army capable of meeting the evolving world situation is a major challenge. One might presume that the introduction of the LAV III has put the Canadian Army in the fore for the move to medium-weight forces. Unfortunately, even with the improvements to the LAV III, both the US Marines Corps and the Saudi Arabian National Guard with their procurement of LAV-25 variants preceded our purchase and did so in greater numbers of variants and overall systems. The US Army is

could hope for would be to follow their lead. However, as indicated earlier, being small can be advantageous if one is willing to capitalize on the advantages of being small. This is not to say that a smaller Army does not have resource problems. In Canada's case, pundits have long been heralding the demise of the Canadian Forces due to budget shortfalls. A recent analysis has gone as far as predicting that under the current and projected funding envelope, "...Canada can now afford either an Air Force, or a Navy, but not both, plus an Army which does not

purpose system with more capable munitions.

Other concerns about adopting the 105 mm MGS include the fact that the US Army view that the MGS as an interim measure only, that limitations of the 105 mm gun system offer no improvements in firepower and that it also lacks any innovation or possible contribution to future medium-weight MMEV/FCS type systems. The US has the size and breadth to maintain different levels of capabilities within its Army. When the FCS technology becomes available and begins delivery

in the 2015 timeframe, the US Army can absorb the MGSs or simply dispose of them. Canada does not have this luxury. The cost of 50 MGS means that the Canadian Army will have these vehicles for 20+ years and will not be able to capitalize on the MMEV/FCS type system improvements required to make a force based on medium-weight systems truly viable. This is especially disturbing when the system in question

munitions types for the MGS are the same as the current LEOPARD. The firepower and protection shortfalls to forces equipped with the LEOPARD 1 or wheeled LAV based 105mm Armoured Combat Vehicles similar to the MGS have been researched and documented in a number of Operational Research (OR) studies¹¹. The common theme throughout is the lack of firepower (lethality, rate/weight of fire and/or range) and protection

require a major cultural change within the tradition bound and cap-badge oriented western armies in who does what on the battlefield and how do we train the future MMEV/FCS crews. Perhaps this is where the Canadian Army can make a significant contribution.

Making this contribution can be accomplished by using a little imagination and using the existing

... innovation and bold use of existing resources can reap huge benefits in niche areas...

does not provide a marked improvement over existing systems.

Although the US Army is forging ahead with the 105 mm STRYKER MGS for their interim force, it is not without controversy and problems. Development challenges of putting the high velocity 105 mm gun on a LAV chassis, crew/troop safety issues and weight problems in meeting the C-130 Hercules criteria need to be addressed⁹. With the MGS still in development, little known of its true capabilities and exactly how the US Army will actually use it in the SBCT. Initial briefings and unofficial reports¹⁰ indicate that while the MGS may have a capability against older tanks such as the T-62, the US Army intent is to use the MGS primarily as a DFSV in the “mobile bunker busting” role. Even in this role, the effectiveness of current 105mm tank rounds and its growth and/or performance improvement potential is not certain. Any unexpected armour threat would be left for the TOW missile equipped variant to deal with and if there was a perceived tank threat, then M1 Abrams tanks would be part of the force structure deployed.

The requirement for multiple specialized systems and ammunitions to meet the firepower needs of their interim force may be acceptable to the US and larger allies as they will have their very capable legacy systems to call upon. However, it greatly increases the risk posed to and by Canadian forces in a coalition. The 105 mm gun and the proposed

that LEOPARD 1 and LAV based systems have against Main Battle Tanks (MBTs) and long-range missile systems. The need for protection and firepower is not unique to Canada. The Australian military has also identified the need for these characteristics and are seeking a well-armoured and more powerful replacement for their current LEOPARD 1 tanks¹². The risk to a coalition is that they would have to compensate for our deficiencies by providing their legacy or other systems.

The question is—how can Canada show innovative leadership during the Interim Force period that will make a valuable contribution to future allied combat systems while still meeting our current needs and staying within our limited funding? As indicated earlier, while we may not be able to make large inroads into the complete systems, if we are willing to be disciplined enough to forgo the normal tribalistic/cap-badge oriented tendencies that preclude “thinking-out-of-the-box”, there is an important area in which Canada can excel and contribute greatly. The MMEV/FCS or other multi-purpose vehicles of the future will dramatically change our current traditional outlook on which Corps or Arms do what on the battlefield and the lines between direct and indirect fire support as well as the responsibilities for engagement of ground and air threats will become blurred or non-existent. This will

available/allocated resources to acquire largely off-the-shelf systems yet still provide a credible and useful asset to our forces for the current and projected real-life deployments out to and beyond the 2010–2015 timeframe. The evaluation of the cultural changes required within current traditional western armies such as Canada’s can be done on many fronts. The Defence Research and Development Canada (DRDC)—Toronto human factors engineering labs and in the DRDC—Valcartier Armoured Vehicle Test Bed through the MMEV Technology Demonstration Project (TDP) are already gearing up to contribute to the theoretical and individual aspects of this problem¹³. In order to determine the effects of multi-tasking on individuals, doctrine and the actual systems, the MMEV TDP has also identified the need for OR and experimentation involving both simulation and live studies. However,



GDLS Proposed STRYKER 105mm Mobile Gun System (MGS)
(Photo courtesy General Dynamics)

because of the lack of an actual vehicle system capable of performing in multiple roles, a larger and long-term investigation is not contemplated at this time. Oddly enough, there is a system that the Army has contemplating acquiring that, although not originally envisioned as a multi-role system, could form the basis for conducting this type of MMEV system trial and still meet a number of current Army shortfalls and needs.

This system is a 120 mm turreted SP mortar similar to one the Army provided for the Battalion Level Indirect Fire OR Study as part of DSP Project 00000277¹⁴. Although the OR study concentrated on the indirect fire aspects of the 120 mm SP mortar system, it was, based on the data provided by the Army sponsor (Directorate of Land Requirements) for currently available 120 mm SP mortar systems and munitions¹⁵, able to perform in other direct fire roles. The 120 mm SP mortar could provide indirect fire support below brigade level and form the basis for a replacement DFSV with more capability against MBTs than the LEOPARD 1 and an extended-range

systems, able to successfully engage and destroy light and heavy armoured vehicles¹⁷.

For the DFSV or direct-fire role, the 120 mm SP mortar offers a number of advantages over a 105 mm high velocity tank gun system. First it has a larger HE round than the 105 mm HEP/HESH. The 120 mm HEAT round also allows it to effectively engage MBTs out to 1000 m and a PGM or TGM round, with an integral laser-designator, allows engagements out to 10 km. The PGM round also allows precise targeting of individual bunkers, building floors or openings increasing its effectiveness, accuracy and possible collateral damage. The shorter barrel length (almost 2 m shorter than the 105 mm tank gun) could also be an advantage in the close quarters in urban/complex terrain operations.

For an extended-range anti-armour role, the 500 m minimum range of PGM and TGM rounds are compatible with the minimum limits for the TOW and ADATS systems but the 10 km maximum far exceeds both. Again with an integral laser-designator and as well as a broader distribution of



**GDLS (GM Defence)/DELCO/RO
120 mm AMS in Saudi Arabian
National Guard Service**

(Photo courtesy General Dynamics)

added cost. This would include validation of the human factors and cultural changes needed and the synergism and effects on combat operations from MMEV simulations/experimentation. As well, live data could be obtained on logistical, maintenance and training issues that will confront the Army as it moves to an MMEV type system. If we act within the proposed BLIFS project timeline (delivery in 2009–2013), we could, in a small way, be leading the world in fielding a multipurpose combat type vehicle. The data collected and validations found during these types of trial would be a worthwhile and credible

All this is to kick start the shift from the current platform-centric Army based on Cold War doctrine to an information/command-centric force for the 21st century.

anti-armour system with more capability than the current (LAV TOW) or projected (LAV mounted ADATS) systems.

For the indirect fire role, the 120 mm mortar conclusively showed better capabilities to provide fire support to ground troops over the 81 mm mortar or the towed 105 mm LG1 howitzer systems¹⁶. The larger, more lethal high explosive (HE) munitions coupled with a high rate of fire and more than adequate range for supporting Battle Group level operations allowed the 120 mm SP mortar to be more capable against prevail in dismounted infantry. When coupled with the Dual Purpose Improved Conventional Munition (DPICM), Precision Guided Munition (PGM) and Terminally Guided Munition (TGM) rounds, the 120 mm SP mortar was, unlike the other

Ground Laser-Designators (GLDs) amongst reconnaissance, infantry and other units, the 120 mm SP mortar could be an effective alternative with an added advantage, when using a remote designator, of engaging targets from behind cover and not exposing the thin LAV armour to direct fire.

The 120 mm SP mortar system can be procured with no increase or change to the current DSP projects¹⁸. It does not necessarily replace the current systems employed in their primary roles but could complement their capabilities until MMEV is fielded. The original number (20–30 systems) proposed by the BLIFS project are still required to fill their primary role to provide indirect fire support. However, if bought, the Army would have a system capable of being used to trial the other roles at little or no

contribution to the development of MMEV/FCS based forces.

As a side benefit, the 120 mm SP mortar would, if the Army were to adopt it as a multi-role system, also make a valuable contribution to current type deployments. By having a single type of vehicle deployed and having the role solely dependent on the munitions loaded on the vehicle would reduced the number of different types of systems in theatre without compromising troop safety and capabilities. If the current 20–30 systems under the BLIFS project are insufficient, additional funding from the Medium Indirect Fire System (M-109 SP replacement/upgrade) project can used to increase the quantity and procure more precision munitions.

An innovative approach such as that described above could be taken in other areas as well. All it takes is some imagination to think innovatively, some courage to accept a degree of risk and the discipline to combat tribalism. Making the choice of “leading” in those areas not only improves the Canadian Army’s stature and credibility amongst our allies but also improves the pride and self-esteem of those within. An approach only advocating “following” or, as a worst case, “getting-out-of-the-way”

can only cause harm and should be avoided.



ABOUT THE AUTHOR...

Lieutenant-Colonel J.A. Summerfield is a Military Engineer graduating from the University of Ottawa with a Bachelor of Applied Science (Mechanical Engineering) degree. He is also a graduate of CLFCSC in Kingston, CFCSC in Toronto and the United States Armed Forces Staff Course (now Joint Forces Staff Course). He has held numerous regimental appointments in 2 and 4 Combat Engineer Regiments and commanded 4 Engineer Support Regiment. He has also served on both the Joint and Land Staffs in NDHQ and is currently Team Leader for the Research War Game Team within the Operational Research Division in Ottawa.

ENDNOTES

1. Comments by CLS that forces be optimized for rapid deployment while possessing balanced combat power and protection for a broad range of missions, that a MBT was not included but there was a need for a DFSV capability and that the force be effective in all operations including warfighting but my be incapable of some tactical task were part of the CLS Report to SCONDVA, 17 May 2001.
2. Department of National Defence, DLSC Future Army Experiment—*Operations in the Expanded Battlespace*, June 2001 and DLSC Future Army Experiment—*Operations in the Urban Battlespace*, May 2002.
3. The strategic principles and guidance for Army development are contained in a series of DLSC reports (DLSC Report 99-2, *The Future Security Environment*, August 1999; DLSC Research Note 0001, *Sustainment Capabilities for the Army of the Future*, March 2000; and DLSC Report 01/01, *Future Army Capabilities*, January 2001), in senior leadership briefings (Commander LFDS Powerpoint briefing “Developing 21st Century Capabilities for the Canadian Army” dated 12 May 2003 (http://lfdts.army.mil.ca/web_temp/Secretariat/Cbt_Dev/Whats_New/) and *Advancing with Purpose—The Army Strategy—One Army, One Team, One Vision*. (<http://www.army.forces.ca/strategy/>).
4. Scott Gourley, “Stryker Brigade passes latest milestone”, Jane’s Defence Weekly, Volume 39, Issue 22, 04 June 2003, page 8.
5. Kim Burger, “Contractor chosen for US Army’s Future Combat System”, Jane’s Defence Weekly, Volume 40, Issue 2, 16 July 2003, page 2.
6. Brian S. MacDonald, “After the Mass Extinction: Capital Budgets and Future Policy Options”, Canadian Defence Review, Volume 9, Issue 1, February 2003, page 14.
7. Martin Shadwick, “The Tank and Asymmetric Choices”, Canadian Military Journal, Volume 4, Number 1, Spring 2003, page 57.
8. David Pugliese, “Army wins battle for cash, new equipment—needs of air force and navy will take back seat this year”, The Ottawa Citizen, 24 July 2003, page A5.
9. Kim Burger and Scott Gourley, “Testing time for the Mobile Gun System”, Jane’s Defence Weekly, Volume 39, Issue 22, 04 June 2003, page 8.
10. Derived from discussions with various CFLOs to US Army establishments.
11. Department of National Defence, Operational Research Division (ORD) Report R2003/01, “Main Contingency Brigade Group Combat Capabilities Study (BRONZE ZIZKA)”, February 2003; ORD Project Report PR2001/06, “An Examination of Proposed Anti-Armour Weapon Options for the Infantry (IRON UNGUIS)”, May 2001; ORD Project Report PR9817, “Analysis of the Armoured Combat Vehicle in Warfighting Tasks(Quarré de Fer)”, December 1998.
12. Ian Bostock, “Australian Army must become a light armoured force”, Jane’s Defence Weekly, Volume 39, Issue 26, 2 July 2003, page 14; “Australian row erupts over policy meddling”, Jane’s Defence Weekly, Volume 39, Issue 25, 25 June 2003, page 4; “Australia mulls Leopard 2”, Jane’s Defence Weekly, Volume 39, Issue 21, 28 May 2003, page 6.
13. Department of National Defence, ADM(S&T) Technical Demonstration Project Number 12fo, Project Charter—Multi-Mission Effects Vehicle, 1 April 2003.
14. Statement of Capability Deficiency, SS(ID) 3136-600000277 (DLR 5-8 PD BGIFS(I)) 28 Jun 00 included a replacement for the 81 mm mortar system. As part of the DSP project a DLR sponsored ORD study (3552-22235 - ESTOC (DOR(MLA)), ORD Project Directive Battalion Level Indirect Fire System (BLIFS) Project IRON ESTOC, 6 Jun 2001) was undertaken to compare the 81mm system against the current 105 mm LG1 towed howitzer and three 120mm self-propelled LAV based mortar system. The final report is currently under review.
15. The data provided by DLR was for the GDLS (formerly GM Defence) LAV chassis based DELCO/Royal Ordnance 120 mm Armoured Mortar System (AMS) similar to the 73 already provided to the Saudi Arabian National Guard and being offered, with an improved turret design with a NATO standard fire control system (FCS), to the Australian Army under Project Land 135. The FCS includes a differential GPS and other attributes to allow for autonomous operations and also incorporates a thermal direct fire sight assembly with integral laser range-finder. Ammunition for the study included currently available indirect fire (10 km range HE, smoke and DPICM) rounds and a direct fire HEAT round (lethal against a T-80 type MBT at 1000 m). As well, PGM and TGM rounds currently under development and to be available in the 2005 timeframe were used.
16. Initial results from the ORD BLIFS Study (IRON ESTOC)
17. Current information from Jane’s sources indicates that development of improved munitions (DPICM, PGM, TGM) for the 81 mm is not proceeding (UK Merlin PGM development has ceased) and that only a DPICM round is being developed by the US for 105 mm howitzer systems.
18. As listed in Annex D to 4500-10 (J7 Trg 4) dated 25 June 2003, *Strategic Collective Training Guidance 2004*.

The Medium Gun System is Coming!....Now What?

by Major D. J. Senft

INTRODUCTION

During the mid 1990s, while happily entrenched as the battle captain for one of my regiment's Leopard tank squadrons, I recall fondly watching my recce brethren as the new Coyote recce vehicle was introduced into service in our corps. Initially, I found it quite amusing to watch our recce squadron as it struggled to develop doctrine for such a large vehicle that had been brought into service to replace the venerable Lynx. As their trials and tribulations wore on while they struggled to come to grips with such a complex vehicle with such tremendous surveillance capabilities, my sense of amusement quickly began to transform to a sense of alarm as it was clear that these new multi-million dollar assets had been brought into service without a tremendous amount of forethought and, quite clearly, without any established doctrine. Alarm grew to panic as orders arrived to have the surveillance systems cut out from many of the vehicles as they were to be re-roled to direct fire support vehicles, then happily, years later, to have this order rescinded, no doubt at great expense, as they were once again re-kitted with their surveillance gear. Panic turned to dismay, as I watched these vehicles being employed in the close recce role, given the lack of doctrine, and saw on countless occasions far too many of these key intelligence, surveillance, target acquisition and reconnaissance (ISTAR) assets lost to enemy action in training exercises as they were mis-employed as close recce elements. Finally and painfully, having begun to learn some valuable lessons from overseas deployments, British Army Training Unit Suffield and National Training Center rotations, it became clear that this multi-million dollar surveillance vehicle was indeed just that-a surveillance vehicle. With the capability to cover an area through electronic surveillance in excess of 300 square kilometers, the vehicles were finally employed in the role they were designed for, as surveillance platforms, part of the ISTAR network of systems, used to find the enemy, to allow the subsequent fix and strike at a time and place of our choosing. In this role, both at home (during the G8 Summit in Kananaskis in 2002) and abroad on operations, they have proven invaluable. The issue at hand is why did it take almost seven years to come to the stunning realization that the Coyote recce vehicle was best employed as a surveillance vehicle? The answer is clear: the vehicle was acquired and introduced without the supporting doctrine that would form the framework for its tactical employment. Using the Coyote as our yardstick, we are close to repeating this same mistake as we move to retire our venerable Leopard tank and replace it with a wheeled 105 mm medium gun system (MGS).

DOCTRINE AND ORGANIZATION

As a career tanker, I have argued constantly for the salvation of our much-maligned Leopard, having deployed with that tank operationally in 1999 to Kosovo Force (KFOR) in Kosovo and seen its stellar performance first hand during that peace enforcement operation. However, this paper will not attempt to again present those arguments, valid as they are, as it is evident that political and strategic considerations have resulted in the pending introduction of the MGS to our corps. This paper will serve instead as an attempt to discuss the potential impact of this system on our corps and the combined arms team in an effort to ensure that, unlike the Coyote, we have considered how the MGS will be employed prior to its introduction and introduce the vehicle and its supporting tactical doctrine concurrently to allow its effective introduction to our Corps. In discussing the potential role in the CF for such a vehicle, I will base much of my discussion on the US Army Stryker Brigade Combat Teams (SBCTs) and their employment of the vehicle as it is clear the Canadian Army and its interim model is at least an attempt to emulate the capabilities and mobility of the SBCTs. It must be clear, however, that the introduction of the MGS to our corps will require a paradigm shift in our thinking and tactical approach. The MGS is not being introduced to replace the tank; it simply cannot do so. It is not a tank and shares only a few of the capabilities and, therefore, missions that could be assigned to a tank. Any attempt to simply have the MGS replace the Leopard one for one on the battlefield is a recipe for disaster, hence the US Army's view that the SBCTs are simply a portion of the overall effort and absolutely will be backed up by follow on forces consisting of traditional heavy armour in any conventional fight as the two are seen as complimentary to each other to ensure success. Even in operations other than war (OOTW), the tank was seen to be more effective in 11 of the 15 tasks analyzed, so yet again, a synergistic employment of the two systems would appear to make sense. This was borne out during the CF Operational Research Division study of the armoured combat vehicle (ACV), based on a wheeled 105 mm, and main battle tank (MBT), based on an M1A2, summarized in February of 1999, which identified the following with regard to tasks in OOTW for each system:

The tasks for which the ACV was considered to be the preferable system were: conduct of convoy escort, provide mounted and dismounted OPs [observation posts], provide mounted patrol, and contribute to a rapid



In addition to the MGS, the Canadian Army is also investigating the feasibility of a future “Multi-Mission Effects Vehicle (MMEV)” a conceptual prototype which is portrayed here combining the LAV Chassis and ADATS missile system. (Photo courtesy DND)

reaction force. The M1A2 MBT was considered to be superior in the following: demonstrate resolve, defend with other troops, conduct hasty defence, provide fire support to a check point, establish a road block, conduct a hasty attack, provide direct fire support to the infantry in an attack, reduce strong points, bunkers, trenches and secure a route.¹

To better understand the roles, missions and tasks that could potentially be assigned to the MGS, it is worthwhile to review the current doctrine being developed by the SBCTs in the US Army for employment of the MGS. The following is a summary of current US doctrine regarding employment of MGS platoons²:

Description—The MGS platoon is *an organic platoon of the rifle company*. Its mission is to provide medium armour support, firepower, maneuver, protection and shock effect to aid the combined arms company in the accomplishment of its mission.

MGS Vehicle Capabilities—Provide lethal direct fires *in support of dismounted assaulting infantry*.

- ◆ Rapidly destroy a diversity of

threat targets (stationary, mobile, material).

- ◆ Employ a full suite of munitions under all visibility conditions.
- ◆ Achieve high survivability through:
 - ◆ situational understanding;
 - ◆ support to positions outside threat engagement zones;
 - ◆ avoiding high risk, unsecured terrain profiles;
 - ◆ maintaining mobility and agility; and
 - ◆ organic weapons systems for direct fire self-defense.

MGS Vehicle Key Requirements—Destroy with direct and supporting fires conventional infantry bunkers & wall type fortifications, machine gun and sniper positions.

- ◆ Defeat dismounted infantry with primary and secondary weapon systems.
- ◆ Deliver bunker defeating HE [high explosive] and AP [armor piercing] ammunitions.
- ◆ Possess a full solution fire control system, eye-safe laser rangefinder,

stabilized platform and the ability to operate in degraded mode.

- ◆ Carry a minimum of 17 rounds for the primary armament system in “ready to fire” configuration; fire 6 rounds per minute.
- ◆ Use add on, scaleable armor packages, spall lining and separate personnel and ammo storage compartments to enhance vehicle and crew survivability.

In examining these first few identified requirements and roles for the MGS, several key items become apparent. For instance, as will be highlighted throughout this paper, the US Army sees the MGS as first and foremost an infantry support weapon.³ The MGS platoons are an integral part of the SBCTs and not a stand alone squadron or regiment as is currently the case with the Leopard and Recce squadrons in our corps. The SBCT fact sheet distributed during Exercise ARROWHEAD LIGHTENING II, the SBCT Operational Evaluation conducted 17–25 May 03 at the Joint Readiness Training Center (JRTC) in Ft Polk Louisiana, describes the SBCT as follows:

...an infantry centric unit with 3600 soldiers...that exploits technology to fill a current operations capability gap between the Army’s heavy and light forces and key operational capabilities include: increased operational and tactical mobility, enhanced situational awareness and understanding, combined arms integration down to company level, and lethal and non-lethal joint effects.⁴

Key to these capabilities remains the infantry centric focus of the organization. The MGS is designed as a tool to support the infantry *at the company level*. The MGS platoon is an integral and organic asset to the rifle company, designed to provide support to the myriad of operations it can be tasked to conduct. The MGS is not employed as a tank squadron as part of a tank regiment; it is fully integrated into the rifle company. The

SBCT fact sheet summarizes this critical requirement as follows:

To achieve decisive action in various terrain, including urban settings, the SBCT possesses a combined arms capability at the company level. Stryker Brigade companies are standing combined arms teams consisting of: a MGS platoon, mortar platoon, forward observers, sniper team and three infantry line platoons. In the SBCT, these units train together year round as opposed to just for training exercises or war.⁵

This then is clearly the first major hurdle CF planners will have to address: our current practice of only grouping combat arms elements when mission tasked will clearly be ineffective. To employ these systems to full potential, they must be integral and standing elements of a combined arms team. They must have infantry to provide local security and close support, and equally, must be directly attached to the infantry to provide the necessary direct fire support for their operations. Additionally, as can be seen in the quote above, SBCT companies also have integral observers and indirect fire support in the form of 60 mm and 120 mm mortars. All of these elements are grouped together as a standing force that trains together year round. This will require a cultural shift in our current Army, as these combined arms elements are not just complimentary of each other, but in reality are utterly dependant on each other for survival on the battlefield.

Before just allocating the MGS to one of the armoured regiments in our corps, careful thought must be given to its integration with the supporting arms, which is so necessary for the survival of a light wheeled infantry support system. The MGS is not a tank, nor is it a tank replacement. As well, in addition to those supporting capabilities listed above, there is yet another key deficiency that the MGS will have in comparison with the tank: in the list of capabilities listed above, the task of “tank killer” is noticeably

absent. The MGS is not a tank killer, it does not have the armoured protection or stand off range of a modern MBT to undertake this task. Again examining the SBCT, this role is achieved by integrating an anti-tank (AT) company into the SBCT. Currently, this AT coy is comprised of 3 AT platoons utilizing a light armoured vehicle (LAV) 3 mounted tube-launched, optically-tracked, wire-guided (TOW) 2B anti-tank guided missile (ATGM) system. This provides the SBCT with the capability of defeating level II armour threats as opposed to the wall and bunker breaching capability inherent in the MGS platoons. Again, a synergistic approach is used to ensure these light and mobile elements retain the capability to deal with any threat they may encounter. The same is true for recce, engineer and combat service support (CSS) elements, all of which are integral to the SBCT. A faster, more mobile MGS platoon is ineffective if not afforded mobility support from integral engineer resources immediately at hand, and lighter armoured vehicles must have excellent situational awareness to avoid contact with more capable heavily armoured forces, hence the integral recce company. The key issue here is the absolute requirement to introduce the MGS as part of a

massive force restructure, which would see the grouping of MGS, infantry, ATGM, recce, engineer, fire support and CSS elements into standing full time entities, with combined arms integration to company level. Anything else would very quickly expose the vulnerability of the individual systems when operated independently of each other. This is illustrated in the following quote:

When the enemy tried to destroy the MGS SBF (support by firebase) by flanking with dismounted AT weaponry, close infantry support fire teams were able to identify the dismounted AT threat and destroy them before they could initiate firing. Conversely, when a company chose to leave the MGS without infantry security, they were completely destroyed. After the mission, the only units with surviving MGS vehicles were the units that utilized the deliberate occupation method, always supported by infantry.⁶

What must be clearly understood is that the SBCTs, of which the MGS platoons form an integral part, have been designed specifically to fill a capability gap between the US Army's light and heavy forces not as a stand-alone, rapid deployment force. The loss of the Leopard tank and M109, to



An Engineer variant of the “Stryker” LAV in trial by the US Army
(Photo courtesy US Army)

be “replaced” by the MGS and some form of “light 155” is not simply a one for one exchange for a “newer model”; it must be recognized as a pivotal shift in capability, as we will be surrendering much of our mechanized heavy capability for a niche role as a rapidly deployable medium weight force. This clearly begs the question, from where are we to draw our heavy capability? The US Army has summarized their modernization effort as “Army units conducting joint and combined operations will see first, understand first, act first and finish decisively.”⁷ Perhaps more common in Canadian publications are the terms find, fix and strike.

In either case, a balance of forces must be maintained to facilitate successful pursuit of each of these key functions. With Coyote, the advent of MGS, air defence anti-tank system (ADATS) and unmanned aerial vehicles (UAVs), amongst other new systems, we as a force will possess a reasonably effective capability to find and fix or “see first, understand first, [and] act first.” What we will have sacrificed is our ability to strike or finish decisively—the role of the heavy forces in the US Army triumvirate of capability. If we are relying solely upon the effects of massed or precision remote fires to achieve that function in our new force build, we have forgotten many of the key lessons of the past, including those most recently learned during Op ENDURING FREEDOM in Iraq. At some point, someone still must “cross the deadly ground” to close with and destroy the enemy. Massed and precision fires alone will not suffice. Major General Robert Scales Jr, in his most recent publication entitled *Yellow Smoke*, reviews this issue in some detail. Specifically, he examines the inability of fires alone to defeat an enemy in the field. He returns repeatedly to an enemy’s ability to adapt to the most prolonged and severe fires. “Fires may destroy some enemy personnel and material,” Scales writes, “but its real value is in temporary demoralization, which can only be a passing effect. For decision, maneuver is required to defeat the surviving enemy and occupy his

1 CANADIAN MEDIUM BRIGADE GROUP

1 Canadian Medium Brigade Group HQ

2 X MEDIUM BNs (1PPCLI, 2PPCLI)

- 3 X Inf Cos each with
 - 3 X LAV 3 Inf Pls
 - 1 MGS Pl of 3 Vehs
 - Mortar Sect (6 X 60 mm)
 - Sniper Sect
 - FOO Sect LAV FIST
 - Medics
- Support Coy with
 - Recce Platoon (close recce)
 - Mortar Pl (81/120 mm Mortars)
 - Medical Pl
 - Sniper Det
 - Medium Range AT Pl (Javelin)

CALVARY BN [LdSH(RC)]

- 3 X Close Recce Tps
 - LUVW/ATV Mounted
- Surveillance Sqn
 - NBC Recce
 - UAV Pl
 - 3 X Coyote Tp
- Anti-Tank Sqn
 - 10 X Leopard / 8 X ATGM
- Support Sqn
 - Med pl
 - Mortar Section (81 mm)
 - CSS Echelon
 - Medium Range AT Pl

ARTILLERY BATTALION (1 RCHA)

- 1 X Battery of Towed 155 mm
- 1 X Battery of LG1
- Counterbattery Radar Tp

ENGINEER COMPANY (1 CER)

- 3 X Mobility Pls (LAV ESV)
 - Engr Recce
 - MICLIC/Volcano
 - 9 X Engr Sects (3/Pl)
- 1 X Heavy Eqpt Pl

1 X LIGHT BN (3PPCLI)

- 1 X Para Coy
- 1 X Mtn Ops Coy
- Medium Range AT Pl (Javelin)
- Mortar Pl (60/81 mm)
- Sniper Pl
- Med Pl
- FOO Sect

SUPPORT BN (1 Svc Bn / GS Bn / Fd Amb)

- HQ
- Forward Maint Coy
- Supply and Transport Coy
- Bde Medical Station

SIGNALS COY (1 HQ & Sigs)

- Network Ops Pl
- Sigs Sp Pl
- Bde HQ TOC Nodal Pl
- Bde Sp Bn Nodal Pl

positions.” He argues that “rather than permanent superiority of one over the other, firepower and maneuver must be orchestrated and applied in balance to ensure success.”⁸ In reviewing this book, Colonel Robert Killbrew places General Scales’ thesis into the context of the current conflict in Iraq. He states:

With regard to the tactical relationship of fires and maneuver, though, anecdotal evidence thus far supports Scales’ and DePuy’s belief that maneuver’s purpose is to set up fires, but an important footnote is that, in close combat in towns or built up areas, the maneuver forces themselves have to be capable of

large volumes of discriminate direct fire, as practiced today by M1A2 Abrams tanks, Bradley fighting vehicles and the weapons of dismounted troops. On fragmentary evidence thus far, the intensely human battlefields of Iraq have discredited the more extreme transformation views of ground forces as primarily spotters for firepower. Maneuver to close combat is still decisive in warfare...a major argument for lightening the force is that agility and superior intelligence can compensate for heavily armoured vehicles, which are frequently derided as bulky and hard to deploy. In fact, though, the relatively low casualty rate of Army forces is due at least in part to thick armour, and, the close quarters nature of skirmishes thus far would probably negate the ability of even the most sophisticated intelligence sources to avoid threats to thin skinned vehicles. Further, the long penetration of US Army armoured and airmobile forces towards Baghdad should finally put to rest—again—the idea that “heavy” forces are necessarily immobile and slow.

The question we need to ask ourselves in our corps is will we still have the capability for manoeuvre in close combat once the MGS has replaced the Leopard? Can we strike (by maneuver) and finish decisively given the lessons learned, yet again, from the Gulf?

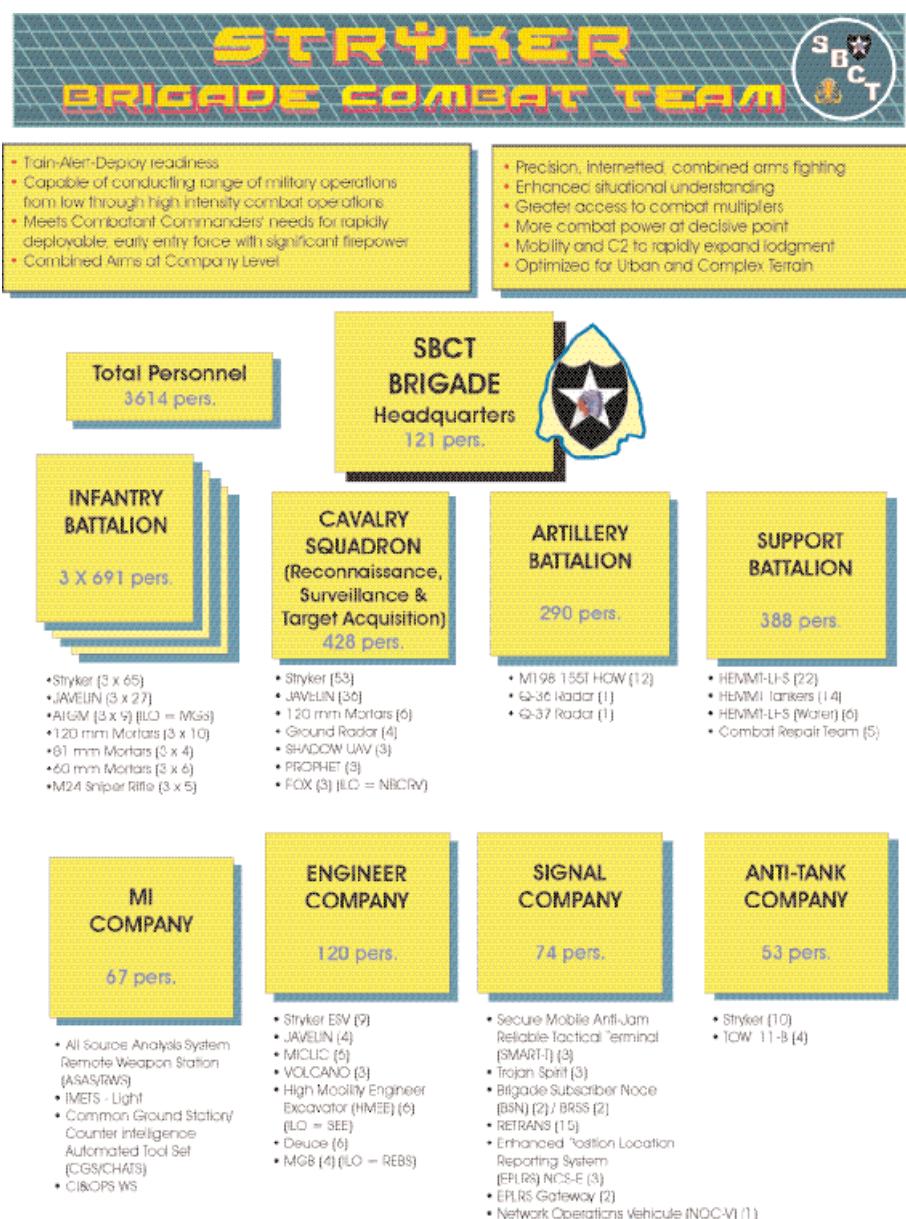
A PROPOSAL

So, as I've outlined above, for the MGS to be effectively introduced and, more importantly, survive on the battlefield, it must be one of number of systems integrated together at the company level. While there are clearly many different options, I will outline below my proposal for what our medium weight brigades could perhaps look like. I have used in large part the SBCT organization as the basis for this organization, however, I have worked to link our medium weight force to at least some form of heavy capability (i.e., tanks). Additionally, where equipment has not yet been purchased but has been identified as pending introduction, I

have generically described the system rather than specifically suggesting one variant or another. The key to the organization of my proposed Canadian Medium Brigade Group is to address those issues identified during the stand up and operational evaluations of the SBCT. Those key items are combined arms integration to company level, a triumvirate of capability spanning light to heavy forces to allow for addressing any threat that we may face on the battlefield, and a focus on ISTAR capability to allow us to see first, understand first and act first, as clearly situational awareness and understanding will be key to the survivability of light to medium systems. As a baseline for review

purposes, I have also included the current organization of the SBCT.

The above organization is meant to serve as a springboard for discussion, and in that regard has been left intentionally vague. Its aim is to illustrate one possible configuration for our new brigades, utilizing the new equipment and capabilities being brought on line, whilst concurrently maintaining at least a watershed capability to conduct the full spectrum of operations. It also serves to maintain the regimental system so vital in my opinion to our esprit de corps and our long, proud history. There are, however, areas where this steadfast grouping would be somewhat blurred, as the MGS platoons





How does the MGS impact upon the long range anti-armour capability of any interim land force? US Army Stryker Brigade Combat Team (SBCT) TOW vehicles muster during a recent training and validation exercise.
(Photo courtesy US Army Photo Archives)

operating in the medium battalions would be manned by Strathcona's, and perhaps all the mortar sections would be manned by personnel wearing the artillery hat badge. This intermixing of arms and functions is instrumental in ensuring we achieve the integration to company level that the SBCTs have determined to be so vital. As well, by maintaining a limited number of Leopards in service, alongside the MGS platoons, and by focusing on developing the capabilities of our light fighters, we maintain the triumvirate of capability so necessary to allow us to respond to any contingency, rather than having to wait for a conflict that precisely matches our limited capabilities to arise to allow our participation. Clearly there also needs to be a tremendous amount of work done on the CSS side in developing the concept. The key issue, however, remains that it is utterly pointless developing light, fast and easily deployable combat forces, without concurrently developing a light, fast and easily deployable CSS element to support it, hence the grouping of all the essential CSS elements (supply, transport, maintenance and medical) under a single element aimed at an effective battlefield distribution system, anticipatory logistics and

personnel support, and greatly enhanced throughput operations. Perhaps with this task-tailored integral and close support, we may then actually have a role for a general support organization. A rough sketch of the manning required for the above organization, again measured against the yardstick of the SBCTs, would be approximately 3,850 troops, well within the current strength of our existing CMBGs. As far as Stryker and Leopard are concerned, we would require 10 Leopards per brigade (for a total of 30) and 30 MGS per brigade (for a total of 90), which is very close to the figure of 114 Leopards recently in service across our force. This figure should there for be entirely manageable and achievable.

SUMMARY

In summary, we as a corps and as a force are about to face a significant challenge. The introduction of the MGS cannot be considered a "one off" introduction of a new vehicle as was the case with the Coyote. Clearly, based on its capabilities and its limitations, it must be employed as an integral part of an overall system of systems. It is not a tank replacement, as the Coyote was not a Lynx replacement, and we must exercise

tremendous caution to ensure we do not attempt to utilize it as such. For the MGS to be effective, it must have the necessary supporting arms integrally imbedded on a standing basis at the company level. Does this mean the cessation of the regimental system? Certainly not. As a proud Strathcona, I would be very pleased to see everyone wearing the rakish black beret and our stunning moto, however, I know politically this would be a difficult decision. We do indeed need to integrate the arms and branches of the combined arms team down to company level, particularly given our pending medium weight focus, so there will still be the regiments we have today, they will just perhaps need to look significantly different personnel and equipment wise than they do now. I have indeed changed my tune, initially a loud and experienced voice for retention of the Leopard and binning of the MGS: I now do indeed believe we need the MGS, *in addition* to our venerable Leopard tank, giving us the ability to find (Coyote/ISTAR), fix (MGS/SBCT) and strike (Leopard/M109). Without both, we run the very real risk of becoming a "niche" force, with a limited capability to respond to the full spectrum of global conflict to which we could be called to the fore to assist. Waiting for "just the right war" to come along to meet our capability is an unrealistic expectation. We have been down this same road countless times and must tread with extreme caution. As little as two years ago, we were on the verge as a force of doing away with our light battalions in each of our infantry regiments, re-roling them to training support and ceremonial battalions. Incredible how world events intervened in preventing that from happening, and now, a mere two years later, we have a renewed focus in building up and enhancing our light fighter capability. Are we sure we want to "replace" the Leopard with the MGS?

The aim of this paper has been two fold. First and foremost, to hopefully incite a great deal of discussion and provoke some thought prior to the impending arrival of the MGS, so I

don't arrive at the tank hangar one morning to have my crew introduce me to my new vehicle, a wheeled 105 mm "tank replacement" with no supporting doctrine or tactics,



Is this the full extent of light—heavy integration? A soldier from 3RCR patrols with support from his mounted mates in a LAV III as part of the ISAF mission in and around Kabul, Afghanistan.
(Photo courtesy DND Combat Camera)

techniques and procedures. We must identify the requirement and then match the capability, not buy the Coyote, then spend five years figuring out what to do with it. The second aim of this paper is to make two clear recommendations for detailed consideration. They are as follows:

- ◆ The MGS is not a Leopard replacement. To be effective and retain a capability for close combat manoeuvre, both vehicles are required in our inventory.
- ◆ Integration of the MGS into our force, given its mission and both its capabilities and limitations, must also include a re-alignment of our forces to allow for a standing combined arms capability to company level. The MGS is not a tank, it is a system of systems and must be integrated to be effective and to survive.

We need to begin by deciding clearly and decisively what it is we want to do, how we intend to do it and then, and only then, match our equipment and its capabilities to the identified tasks. The US Army and the SBCTs have done a great deal of work in developing the "faster, lighter, more lethal" concept, and we would be wrong not to benefit from their experience and lessons learned. The

MGS is not a tank and must be integrated with supporting infantry and arms to survive. The SBCTs are not stand alone entities: they fill a critical gap between light and heavy forces to complete the triumvirate of capability. With the loss of our heavy assets, can we truly "strike" and "finish decisively"? Or have we limited our capability to match the equipment and budget available to our force, thereby making us completely reliant upon others to provide that which we cannot? The MGS is coming...now what?



ENDNOTES

1. 3552-22243 (DGOR/DOR [J&L]) *Operational Research Division Project Report 9817*, 23 February 1999, page 39.
2. All taken from US Army FM 17-15-1, *MGS Platoon*, Feb 2000 (italics added by author for emphasis).
3. FM 17-15-1, *MGS Platoon*, Feb 2000 and ARTEP 17-97F-11-MTP, Mission Training Plan, MGS Platoon both describe the MGS's main role as "lethal direct fire support to the infantry" during infantry centric operations.
4. SBCT Media Fact Sheet, Op ARROWHEAD LIGHTENING II, JRTC Ft Polk Louisiana, distributed 17 May 03
5. SBCT Media Fact Sheet (italics by author, slightly paraphrased).
6. *US Army Armor Magazine*—Sep/Oct 2001—"MGS Platoons: A First Look at a New Kind of Unit," by 2Lt Brian P Hurley, MGS Pl Comd, C Coy, 1-23 Inf, 3 BCT, 2ID.
7. *United States Army White Paper*—Concepts for the Objective Force—Concept Summary pg iv.
8. Maj Gen Robert H Scales Jr, US Army Retd, *Yellow Smoke—The Future of Land Warfare for America's Military*, Rowman and Littlefield Publishers, Inc., 181 pgs.
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The Canadian Army and Fighting Power

by Captain J.N. Rickard

The Canadian Army recognizes the moral plane of war. Army doctrine has evolved past its Cold-War fixation on fighting the close battle in Europe to the point where we envision winning battles by attacking the enemy's moral cohesion and will to resist through manoeuvre warfare.¹ We hope to achieve psychological dislocation through the integration of six combat functions-command, information operations, manoeuvre, firepower, protection and sustainment-all focused by the application of tempo, synchronization and main effort. The practical expression of these functions is combat power, defined as "the total means of destructive and/or disruptive force which a military unit or formation can apply against an opponent at a given time and place."²

Although army doctrine seeks enemy defeat on the moral plane, our definition of combat power does not properly address the critical importance of the moral or human dimensions of combat. This paper is aimed at the Land Force element of the CF with specific emphasis on the

prosecute wars. The so-called Revolution in Military Affairs (RMA) debate has focused mainly on the application of advanced information technologies to conventional manoeuvre warfare, but future possibilities are awesome. Imagine the proliferation of nanotechnology to the point where insect-sized robots and drones make the battlefield inhabitable for human soldiers. The idea of cyborg soldiers is also no longer simply the purview of science fiction. They may be the future warriors.⁴ Yet, only the United States has the financial resources to fully exploit the RMA in the near future.

Canadian soldiers will probably not face enemy cyborgs or micro-sized robots for generations but will face the growing reality of urban combat due to the relentless pace of urban sprawl. Thankfully, we fully acknowledge this, but in a recent *Dispatches* from the Army Lessons Learned Centre the critical human component of urban warfare was not specifically identified and highlighted. It admitted that "urban combat will remain close, brutal and personal," but

Although army doctrine seeks enemy defeat on the moral plane, our definition of combat power does not properly address the critical importance of the moral or human dimensions of combat.

combat arms. It is assumed that the experience of combat as it pertains to the moral plane is cross-cultural and that valuable insights can be gained from outside the Canadian experience. It is also assumed that the moral plane will continue to play a critical role in warfare.

THE FUTURE FIGHTING ENVIRONMENT

In the past, the human dimension was paramount. Napoleon once abstractly observed that in war the moral was to the physical as three was to one, meaning the former was far more important for success. Marshal de Saxe declared that "In the knowledge of the human heart must be sought the secrets of success and failure of armies." For Field Marshal Montgomery, "the man" counted for everything in battle. United States Marine Corps doctrine stated more concretely as late as 1997 that "No degree of technological or scientific calculation will overcome the human dimension in war. Any doctrine which attempts to reduce warfare to ratio of forces, weapons, and equipment neglects the impact of the human will on the conduct of war and is therefore inherently false."³

Despite the veracity of the Marine Corps' claim, Western armies have long relied on technology to successfully

the key to victory was identified as flexibility and the identification of good junior leaders.⁵ The will to win and the constant struggle for the soldier's heart was noticeably absent.

It should also not be forgotten that it was only a generation ago in the Falklands War that the Scots Guards and the 3rd Battalion of the Parachute Regiment assaulted Argentine positions on Mount Tumbledown and Mount Longdon with bayonets. Lieutenant-Colonel Hew Pike, Commanding Officer of 3 Para, later recalled that "I shall never forget the sight that morning, of A Company advancing through a thick mist with bayonets fixed."⁶ A generation may seem like a long time for the RMA, but the soldier has nonetheless been and will continue to be the hinge upon which victory or defeat rests until such time as the cyborgs of the Terminator movies gain the ascendancy.

Quantifying the moral dimension is difficult because we are still limited by the continued absence of a broadly accepted theory of combat that satisfactorily measures the impact of human behaviour. Combat is a phenomenon that more readily submits to social science methods than to engineering models.⁷ The late Colonel Trevor N. Dupuy

(USA) proposed one such engineering theory of combat in 1979 with his Quantitative Judgement Model (QJM), but it has never achieved broad acceptance in the eyes of military professionals and academics.⁸ What is required is a clear definition that leaves no doubt in the mind of the Canadian Army as to the critical importance of the moral dimension in combat. A solution would be to adopt the term “fighting power” into our lexicon. I propose the following definition:

Fighting power represents the moral compliment to combat power. It is the synergy of moral factors within a military unit that creates moral force. Moral force allows a unit to withstand casualties and setbacks and successfully engage in extended combat. The generation of fighting power allows a unit to impose its will upon the enemy.

It is conceded that firepower (and other elements of combat power) have played and will continue to play an important role in the ability of soldiers to fight and win. Field Marshal Ferdinand Foch thought that will

and battle exhaustion.¹¹ Each core component has important sub-components, and all are inter-related. Ethos directly influences how an army trains, training develops leadership, leadership directly affects morale, morale is linked to force regeneration, and regeneration affects battle exhaustion. The dynamic interplay between these components is not simply linear either. Training, for example, is directly tied to battle fatigue minimization.

The Canadian Army may never be able to generate the type of extreme fighting power displayed by the ideologically indoctrinated Waffen-SS, the nihilistically oriented Japanese or the fundamentalist extremism of certain Arab militant sects. We have to build fighting power with four key factors in mind: our all-volunteer system, the small size of the Army (regular and reserve), the knowledge that we will always fight far from home, and our place within a liberal democratic society. The question is, can the modern Canadian Army satisfy the requirements for generating *high* fighting power in the face of these stark realities? Let us explore the core components.

RECRUITING

We currently describe Canadian youth as the nexus generation, who, according to various studies, will pursue happiness to the detriment of duty, reject authority and shun group responsibility in favour of individualism.¹³ We are successfully recruiting to the lowest common denominator because we have intentionally degraded our training methods to accommodate young Canadians fully versed in the 1982 *Charter of Rights and Human Freedoms*. New recruits also know how to exploit the Army for personal gain because we tell them how. Our problem is compounded by the fact that societal beliefs have a disproportionate influence in the Army.

SOCIETAL BELIEFS

The nexus generation and society in general have evolved beliefs fundamentally opposed to our cherished ethos. How, for example, does paying for a sex-change operation (as we did in the late 1990s) square with our sense of professionalism and honour when we

...the battlefield will impose its stark realities on the Army without remorse and without deference to the Charter of Rights and Human Freedoms

power and élan were sufficient to drive home attacks in the First World War but was proven catastrophically wrong. American, British and Canadian infantry have all heavily relied on artillery and other forms of firepower to destroy an opponent from the First World War to the just concluded Iraq War.⁹ Our doctrine states that “Firepower is the key element in defeating the enemy’s ability and will to fight,” and it has a “tremendous effect upon enemy morale.” However, its effects “are often temporary,”¹⁰ meaning soldiers are left to close the moral gap.

An examination of military history since the Second World War suggests that fighting power has six core components: ethos, training, leadership, morale, force regeneration

ETHOS

The pillars of the Army’s ethos—unlimited liability, hierarchy, discipline, loyalty, distinct identity, professionalism, courage, duty and honour—are flawless precepts that have won our wars in the past. Modern human resource analysts, however, have ventured where they do not belong and are advocating changes to our ethos to be more compatible with modern Canadian values. Their intention is to attract the right kind of young soldiers and leaders so that the Army can maintain the support of the public. Yet, they grossly overestimate society’s interest in the Army. The political repercussions would be minimal if Ottawa determined to support us in maintaining our traditional ethos.¹²

cannot afford bullets for courses? The savagery of the battlefield has also evolved. Its lethality has increased exponentially. The challenge, according to the academics, is to modify our ethos without risking the operational imperative. This is impossible. It is akin to asking a tiger to get rid of his spots without affecting his ability to survive in the wild. Blindly following every new age and “progressive” whim of society is a dangerous and irresponsible course for the Army to take. The Army may be forced to absorb more liberal philosophies by our political masters, but self-gratification, individualism and *limited* liability are traits that can never be successfully transferred to the battlefield. On the contrary, the battlefield will impose its stark realities



Is the Canadian Army losing its ability to produce highly lethal, highly adaptable weapons like this soldier because of its misunderstanding of the moral plane of combat power? (Photo courtesy Army Public Affairs)

on the Army without remorse and without deference to the *Charter of Rights and Human Freedoms*. The result will be higher casualties and decreased fighting power. We still teach new recruits on their soldier qualification that maintaining the traditional ethos is “essential to the

efficiency of the army in wartime,”¹⁴ but we all know that our bite lags far behind our bark. We must be a praetorian guard of war fighters for the simple reason that the average Canadian has not the slightest concept of what is required to win wars and should not be consulted.

One particular societal change that affects fighting power is the idea of women in combat. The disproportionate television coverage afforded Private Jessica Lynch in the Iraq War proved that society reacts differently to women placed in harm’s way. Women tortured, raped or destroyed will bring forth an elevated guttural reaction from the public.¹⁵ The Israelis, for example, withdrew women from combat after a female soldier (with her patrol) was ambushed, sexually abused and mutilated in the Negev.¹⁶ Feminist activism aside, the question to ask in the context of this paper is what can women, individually or collectively, contribute to the fighting power of combat units?

Historically, women have at times fought in combat. An all-female company apparently served with the Viet Cong in Ben Tre Province in South Vietnam but disintegrated under desertions due to the harshness of the fighting.¹⁷ Various studies (and casual observation) have proven that women *in general* are weaker than men and far more susceptible to stress fractures and injuries in training. In 1998 only 90 of 400 women who volunteered for combat arms training in Canada successfully completed the training.¹⁸ Moreover, as much as no one wants to hear it, women are judged according to a different physical standard.

Beyond their physical limitations, which hinder them most in the infantry, one female analyst has also indicated that individual women placed in combat units create “distraction, dissension and distrust.”¹⁹ Women *do* change the dynamic of units, and men *do* perceive them differently no matter how the women might see themselves. Men instinctively view women in a sexual manner regardless of their intellect or physical prowess, and we *know* that men will vie for the attention/and or affection of women put into a male environment. The repercussions should be self-evident.

The real acid test, however, is visualizing women in past combat

scenarios. Could one replace the all-male platoons of the 101st Airborne Division on Hill 937 (Hamburger Hill) with women and still take the hill? Could we replace the young, fit paratroopers of A Company, 3 Battalion, the Parachute Regiment in the Falklands with females and reasonably expect them to drive off the Argentine defenders on Mount Longdon in bloody hand-to-hand bayonet fighting? The rational answer in both cases simply has to be no. There is little evidence to prove that women contribute to the fighting power of units, but ample impressionistic evidence suggests they might actually undermine it.

THE WARRIOR MENTALITY

As Marine Corps Commandant General Charles C. Krulak said a few years back in discussing urban warfare “Ultimately the key will be the individual Marine warrior, that soul of the warrior.” We do not think like this in the Canadian Army. Captain Thomas St. Denis mistakenly observed in a recent article that “warriors have no place” in American and Canadian armies. To him they are “anathema” and “only soldiers are society’s true

Lieutenant-Colonel D.A. Nicholson questioned “whether a young officer who devotes most of his waking hours to calculating his retirement income possibilities is likely, in the face of the enemy, to rise to his feet and shout, ‘follow-me.’”²⁴ I remain baffled by the number of officers who say they did not join the Army to fight. This is like the football player who signs up for a team, goes to practice all week and then displays shock when the coach hands him his helmet and tells him to go put someone on their ass.

Fundamentally, the modern warrior desires to test himself in combat and never gets comfortable in garrison routine. An American Colonel writing in the early 1980s under the *nom de plume* of Yasotay stated that warriors “have reason to say ‘Bull Shit’ more often than others ... They develop rough edges because they are in a rough business; killing always has been.”²⁵ The desire for straight talk and the professional pursuit of combat excellence at the expense of trivial, secondary considerations has left the warrior on the outside of his own house. As Lieutenant-Colonel Nicholson observed, “There seems to

old, but ever relevant, call to “accept, cherish and develop, along with the nice, manageable pussycats, at least a few TIGERS.” We can generate fighting power without warriors, but not to the same level.

TRAINING

Ground combat subjects the soldier to the ultimate moral, spiritual and physical trials. Duty and honour draw the volunteer soldier to the battlefield, but only realistic training keeps him there. We brag about the level of training our soldiers receive versus other armies, but we could never sustain this quality in a rapid expansion. Moreover, in general war, as the Second World War, the brightest and most physically able young Canadians will flock to the Navy, Air Force, engineers, technical trades and other specialist units.²⁶ The Army will have to generate fighting power with the remainder. Fortunately, the Army employs individual and collective training systems and follows several sound principles. Our individual battle task standards (IBTS) and battle task standards (BTS) are pivotal steps towards building fighting power. As *Training Canada’s Army* correctly

Professionalism is the warrior’s foundation, but the definition of warrior means more.

defenders.”²⁰ He totally misinterprets modern warriors as did Roger Beaumont back in 1974 when he labeled special forces soldiers thugs and hoodlums because they avoided fair fights, sought surprise and slashed throats. The JTF, Rangers, SEALs and SAS would no doubt dispute Beaumont’s characterization.²⁰

Colonel Kenneth Watkins declared that being a warrior in the Canadian Army “must mean being a professional soldier subject to the directions and values of the country.”²² Professionalism is the warrior’s foundation, but the definition of warrior means more. We have all kinds of professional soldiers, but many are dedicated to a pension not the profession of arms.²³ Back in 1973

be a concerted effort to prevent the advancement of any young officer who deviates from the nice, neat, grey middle ground. In other words, the road to flattering PERs, and to promotion, seems to be open primarily to those who do not ‘rock the boat.’”

Warriors infuse the Army with that critical will to win that cannot be matched by the manager caste. Yet there are no dots on our evaluation reports to evaluate the really essential qualities required for winning on the battlefield such as physical courage, mental robustness, single-mindedness of purpose, physical toughness, aggressiveness and self-confidence. Decades of peacekeeping seem to have blunted the warrior spirit in the Army. It is essential that we heed Nicholson’s

states, “The ability to impose one’s will requires first and foremost a mastery of combat skills.”²⁷ That mastery begins with the elementary ability to follow orders.

DISCIPLINE

The first principle of training is, and must remain, discipline.²⁸ John Ellis’s concept of discipline, derived from a study of the Second World War, is as follows:

*Without discipline there is little chance of persuading men to stoically accept all the horrors of modern warfare. Deference to the commands of superiors has to be automatic and unquestioning, and any signs of democratic thinking or individualism that might threaten such a response must be ruthlessly stamped out.*²⁹

It is hard to argue with the first sentence, but today's Army probably could not fully accept the follow-on sentence, even though its Spartan overtone proved effective in the past. Push-ups cannot be given as punishment anymore, and we spend inordinate amounts of time mentally bracketing our disciplinary actions with what the JAG or Ombudsman might say or what the soldier might misconstrue as harassment. Soldiers simply have too many ways—conflict resolution centres, padres, medical authorities and harassment advisors—to avoid the chain of command.³⁰

The 1933 training manual *Truppenfuhrung* underpinned German fighting power during the Second World War and stated that "Mutual trust is the surest foundation for discipline in times of need and danger."³¹ The Germans also realized that strict imposed discipline was essential because combat destroyed mutual trust when respected leaders became casualties. The new leader coming in did not have the benefit of immediate trust as a means to instill discipline. Mutual trust sounds great, but it is only achievable when soldiers

training is therefore not just a tool to keep soldiers busy; it is a matter of survival. Anyone who concludes that our current army fitness standards are acceptable has been living inside The Matrix. We know better, of course, but do not always follow our own wise counsel. *Training Canada's Army* states that "Collective participation in a progressive but *rigorous* [emphasis added] physical regime and the *collective* [emphasis added] achievement of a *high* [emphasis added] physical standard will foster a strong sense of team identity."³⁴ We have long since passed the point where nineteen push-ups should be a source of amusement.

PSYCHOLOGICAL PREPARATION

The difficulty in training soldiers to kill has most recently been articulated by Lieutenant-Colonel Dave Grossman in *On Killing: The Psychological Cost of Learning to Kill in War and Society*. Grossman contends, with significant justification, that soldiers recoil from killing and actually seek ways of avoiding it.³⁵ The end-state of our training is to develop in our soldiers "effective (emotional)

their weapons at the enemy. The rates rose to perhaps 55% among the best American units in Korea and appear to have skyrocketed to perhaps 95% in Vietnam.³⁸ Soldiers can generate considerable fighting power from defensive positions and kill in self-defence, but it is a far more daunting task to leave the safety of cover in an attempt to close with and destroy the enemy. The willingness to kill must be inculcated, preferably from the very beginning of recruit training. Yet we are losing our ability to indoctrinate our soldiers in this fashion. Major William Beaudoin stated that bayonet training used to be "one of the more fundamental methods of psychologically inculcating a soldier in his profession,"³⁹ but it is disappearing from our training program.

Extreme animosity is essential in war. Combat soldiers will use slang words to characterize the enemy as inferior. It is a psychological tool to increase their own self-confidence and gain moral ascendancy over their opponents. It may not now be politically correct to call the enemy "gooks" or "skinnies" or "rag heads," but this language *will* become part of a

Physical training is therefore not just a tool to keep soldiers busy; it is a matter of survival.

and their leaders undertake lengthy periods of training together. We do not always get an opportunity to do this in the Army today.

PHYSICAL TRAINING

Martin van Creveld accurately observed that war "is the province of physical discomfort, deprivation, and danger; the sheer wear and tear is inconceivable to those who have not experienced it first hand. Accordingly, the first qualities required by the combatant are strength and stamina."³² Patton used to say that men could attack flat-out for 60 hours, after which their performance dropped off radically. Current research shows that after 96 hours of sleep deprivation, men cannot distinguish friend from foe and are virtual walking zombies.³³ Physical

skills that instill confidence and moral courage without extinguishing compassion or humanity."³⁶ Nothing is said about generating an intense will to win or surviving amidst a world devoid of compassion or humanity. The American infantry manual, on the other hand, states that training "must constantly remind" soldiers "of their mission [to defeat, capture or repel the enemy], their heritage, and the physical and *mental toughness* [emphasis added] that is required of them."³⁷ This must be our minimum standard because despite our best training efforts, we know that soldiers will claw into the ground while under fire, experience enormous fear and seek ways to avoid killing.

Even among the best American airborne units of the Second World War, perhaps only 30% of troops fired

soldier's vocabulary. We need to recognize this as a psychological tool. The British and American armies in North Africa during the Second World War quickly realized that their fighting power suffered until soldiers learned to hate the Germans. A good argument could also be made that the fighting power of the Marines increased due to their hatred of the "Japs."

Put simply, ground combat cannot be conducted with clinical detachment. The Canadian Army must be reindoctrinated with the intestinal fortitude to kill in order to attain high fighting power. Some may consider my line of reasoning immoral. However, I believe that war without intense emotion would truly be immoral for the simple fact that killing would become too easy. If no

psychological preparation or reflection after the act of killing was required, we would dehumanize combat and then life truly would be cheap. The dehumanizing of combat would also mean that there would be no requirement for the single most important element of fighting power: leadership.

LEADERSHIP

The Canadian Army defines leadership as the “projection of personality and character to get soldiers to do what is required of them.”⁴⁰ Montgomery defined it as “The capacity and the will to rally men and women to a common purpose, and the character which will inspire confidence.”⁴¹ The principles of leadership we follow, as proscribed by Field Marshal Sir Archibald Wavell, are sound. However, the current trend of promulgating new leadership theories in the face of proven ones

planning for set-piece battles in the First World War greatly augmented the fighting power of the Canadian troops in the line. Conversely, poor senior leadership will directly impact the tactical level. At that point, only the gallantry and leadership of the sharp end can retrieve the situation.

THE SHARP END

The Canadian Army long ago adopted *Auftragstaktik* (mission command orders) from the Germans. It limits higher leaders in controlling operations and is dependent upon a high organizational tolerance of risk and uncertainty.⁴⁵ It also places a great burden on junior leaders. Soldiers will not *willingly* follow individuals whom they do not trust and respect. During operation HARMONY in Bosnia in 1994, for example, 41% of enlisted personnel indicated that they had low confidence in their junior officers.⁴⁶ The human dimension is perhaps more

*then in all those who ... have entrusted him with their thoughts and feelings, hopes and fears ... The ardor of his spirit must rekindle the flame of purpose in all others.*⁴⁸

Essentially, junior leaders must have a sound understanding of the workings of the soldier’s mind. The Army would benefit tremendously by having junior officers study the psychology of combat as evidence all throughout military history. This would better prepare them to deal with issues of morale.

MORALE

The Canadian Army has adopted morale as one of ten recognized principles of war and declares it “the most important element on the moral plane” after leadership. The *Land Force Tactical Doctrine* manual continues: “It is essential to ensuring

Put simply, ground combat cannot be conducted with clinical detachment.

simply to satisfy an army less homogenous than in the past is a real concern.⁴² The traditional principles work if they are properly instilled in leaders of all ranks. Lieutenant-Commander George Shorley recently argued that “bystander non-intervention” socio-psychological factors were the root cause for the Somalia murders committed by the Canadian Airborne Regiment in 1993.⁴³ Yet real leaders would have been (and should be) immune to the so-called bystander effect.⁴⁴ In today’s Army we need solid leadership at what I call the blunt and sharp ends in order to generate fighting power.

THE BLUNT END

Senior leadership and operational level commanders must strive to put their fighting units into battle under the most favourable conditions possible. Montgomery used to call this properly “teeing” up the battle. Well-conceived and realistic battle plans are the ultimate force multiplier. I am convinced that Lieutenant-General Sir Arthur Currie’s meticulous

critical than functional considerations at the sharp end. General Sir John Hackett observed that “the heavier the stress on a group, the higher the importance of what I might call personal qualities as distinct from professional competence.” Most critically, he argued that “Effective leadership in battle ... depends more on knowing how to get things done than on being good at knowing what it would be best to do.”⁴⁷

True combat leadership must arise when there is a need for it. As Clausewitz observed, once conditions become difficult, as they must when much is at stake, things no longer run like a well-oiled machine. The machine itself begins to resist, and the commander needs tremendous will power to overcome this resistance... It is the impact of the ebbing of moral and physical strength, of the heart-rending spectacle of the dead and wounded, that the commander has to withstand—first in himself, and

cohesion and the will to win. Morale is nurtured through discipline, self-respect, confidence of the soldier in his commanders and his equipment and a sense of purpose.”⁴⁹ Significant losses will adversely affect morale, especially if the casualties are sustained in a losing effort. Incidents of fratricide, almost always due to human error, can also be devastating for morale, especially if the incidents persist.⁵⁰ As a minimum, however, soldiers need to believe that the machine of which they are a part is not working against them.

FAITH IN MEDICAL SERVICES

Soldiers must also have faith in their access to immediate medical treatment. American soldiers in Vietnam had a much better prospect of surviving wounds than did their fathers in Korea. Although joint operations is now the preferred method of deployment for Western nations, the Canadian Army is losing the ability to treat our own soldiers in combat. We are experiencing great difficulty recruiting and retaining

general duty medical officers (GDMOs). This has already affected our ability to support our expeditionary capability. As Colonel (retd) E. Peter Green noted, we had to “beg medical support from another country” (the US) in Afghanistan.⁵¹

FAITH IN EQUIPMENT

Allied tank crews were intentionally deceived before D-Day regarding the inferiority of the Sherman tank versus the heavy Panthers and Tigers. When they witnessed the truth first hand in Normandy, morale suffered and the willingness to close with and destroy the enemy diminished. There were exceptions of course, as Brigadier-General (ret) S.V. Radley-Walters informed me in no uncertain terms at the 2001 Armour School graduation, but my general observation holds. Armoured Corps soldiers seem to have great confidence in the Coyote, but we have never encountered the BMP 3 in combat. We have no faith in the Leopard C2, and if we ever went into combat with it against T-90s, I believe our morale would definitely suffer. As for the infantry, they lavish praise on the LAV III and seem to have great confidence in its capabilities. I hope that confidence is fully justified and the LAV's high silhouette does not come back to haunt them. At the very least, soldiers must believe that the equipment provided gives them a fighting chance. American soldiers in the Iraq War, for example, displayed a greater willingness to “troll for contact” because they had good confidence in their body armour.⁵²

DISTRIBUTION OF RISK

Combat soldiers must sense that risk in battle is evenly distributed. Units that generate high fighting power often find themselves repeatedly used as assault troops or fire brigades. Many British units in Normandy suffered poor morale because they were flat worn out, believing they had already done their part and more in the North Africa and Italy.⁵³ The Americans experienced the same problem with the veteran “Big Red One” 1st Infantry Division in

North Africa. Although peacekeeping is not war, we face somewhat of the same predicament in that many of our soldiers feel they have done their share overseas and new blood needs to take up the reigns. If the operational tempo does not soon slacken or if we do not gain more soldiers, this problem will surely be exacerbated.

COHESION

Our doctrine places great emphasis on cohesion, stating that it “allows military forces to endure hardship while retaining the physical and moral strength to continue fighting to accomplish their mission.”⁵⁴ However, as noted with our training, the personnel making up our army units do not appear to stay together long enough to build good cohesion. The German Army of the Second World War generated enormous fighting power over several years because the individual soldier enjoyed strong primary group bonding and exhibited great attachment (*esprit de corps*) to higher formations such as regiments and divisions.⁵⁵

W. Victor Madej has legitimately asked, “Are units superior in combat because of cohesion or has such cohesion resulted from superior combat performance?”⁵⁶ I believe the latter to be true. The answer lies in the success or failure of the unit’s first combat action and how leaders treat both. The American 1st Armoured Division completely fell apart during their first engagement against the Germans at Kasserine Pass but recovered under strong leadership. The green American 7th Infantry Division went to pieces during their first action in the May 1943 invasion of Attu in the Aleutians and the green, poorly trained American 24th Infantry Division performed poorly in the opening stages of the Korean War and never significantly improved. From a Canadian perspective, Lieutenant-Colonel Jim Stone’s 2nd Battalion, Princess Patricia’s Canadian Light Infantry, quickly thrown together and poorly trained, had a rough time during their first battles in Korea. In the battle for Hill 419, one Patricia said morale was “extremely low and it

was hard to convince the men to continue on.”⁵⁷ Yet Stone’s battalion rallied well because of his leadership. Thus, I believe that cohesion is not something that soldiers sit around and suddenly decide they are going to have. It takes some time, definitely requires some degree of initial success and demands strong leadership.

FORCE REHABILITATION AND REGENERATION

The Army is confronted with the immediate problem of force *generation* let alone *re-generation*. *Capability Outlook 2002-2012* indicates that “Personnel attrition has resulted in a situation where many units are under-strength and unable to train or to conduct operations without extensive augmentation from other units.” Predicted shortfalls for FY 2003/04 are almost 1000 officers and almost 4000 NCMs.⁵⁸ As one stark example, the three battalions of Princess Patricia’s Canadian Light Infantry are short almost 600 soldiers. The Army is now heavily dependent upon the reserves to carry out any operational commitment.⁵⁹

In combat the primary cause of fighting power disintegration is the destruction of personnel within the unit without a correspondingly timely replenishment. This is particularly true of the infantry, which sustained 75% of Canadian Army casualties in Normandy. As fewer and fewer soldiers attempt to execute the same tactical missions, fighting power inevitably declines. Our doctrine preaches that a unit requiring “rehabilitation” has sustained 25-50% casualties but can continue fighting. A unit that has sustained more than 50% casualties is said to be combat ineffective and requires full “regeneration.”⁶⁰ This is one example of how we attempt to quantify combat and why it is not necessarily appropriate. There are numerous examples of German units in the Second World War fighting effectively well beyond the point of 50% casualties. The difference-maker was cohesion, morale and leadership.

If we went to war tomorrow, replacement personnel would be

brought forward individually, by crews or as formed groups. *Land Force Sustainment* argues that “Whenever possible personnel replacements should be in formed groups such as companies/squadron/batteries or platoons/troops as the integration into the unit is easier and they are already trained to a higher level.” However,

about the American soldier in Vietnam, who could not find the enemy but knew the enemy could find him? He had about as much relative ability to influence his outcome as the Russian soldier in Afghanistan, constantly hounded from the shadows by the rebels even though they were free to fire back. Moreover, a poor

added] cases. Attempts by individuals to pose as exhaustion cases to avoid battle should be *severely* [emphasis added] dealt with. Picking the genuine cases requires knowledge of personnel and close contact with junior commanders.”⁶⁷ Dr. Jacques J. Gouws argues persuasively that “Soldiers should know that CSR is not a reason

We may fight with vehicles, bombs and guns, but we win or lose with the human element.

there is little reason to believe, as our doctrine states, that formed groups of replacements will be well trained. Replacements during the Second World War were poorly trained by the standards of the combat intensity at the time.⁶¹ The same held true for Korea and Vietnam.

BATTLE FATIGUE

The most highly motivated units will eventually suffer battle exhaustion or what the Israelis term combat stress reaction (CSR) in extended combat. A small percentage will not be able to endure even brief periods of combat at any intensity. Several Canadian soldiers who took part in the Medak Pocket battle of September 1993 suffered from post-traumatic stress disorder (PTSD) because of the fifteen-hour firefight and the atrocities they witnessed.⁶² Yet we have lost any perspective on the realities of war if we really believe that peacekeeping in Bosnia is more stressful than street fighting in Ortona. Colonel G.J. Oehring (ret) reflected that “Obviously, peacekeeping is not war” and that “As one who has felt the Peacekeeper’s variety of stress, I am forever amazed that *only* 10% of our father’s generation succumbed.”⁶³

Some argue that peacekeepers face a relative ability to influence events not experienced by veterans of past conventional wars. This argument does not hold up for me. Sitting in an observation post (OP) under fire unable to return fire due to ROEs would be stressful, and any soldier caught in that situation would have little relative influence. But what

American G.I. thrown into the Hurtgen Forest no doubt felt merely like a small cog in a giant meat-grinder. I would not seriously compare sitting in an observation post in Bosnia under sporadic fire to the stresses experienced by Second World War veterans, who had no opportunity to go home and visit their family in the middle of their “tour.”

PREVENTION

Our soldiers need to be indoctrinated with the concept that the battlefield will be a violent assault on their senses so that “the more insidious aspects of fear—that of the unknown—can be minimized.”⁶⁴ Not psychologically preparing them to experience the smell of death and gruesome sights like mass graves (Bosnia) is as irresponsible as sending them into battle without ammunition. British Major-General A.S. Jeapes, former commander of 22 SAS, correctly observed that “An aggressive soldier who mentally accepts the battlefield and even (dare one say it) rather enjoys it, is likely to suffer from stress much less than the soldier who finds the whole thing hateful and wishes he were anywhere else.”⁶⁵ Indeed, we must mentally prepare our soldiers to be “waist deep in bodies, covered in blood,” as Romeo Dellaire once described his nightmares from Rwanda.⁶⁶

Steps must also be taken to keep as many soldiers at the sharp end as possible. The *Infantry Section and Platoon* in Battle manual states “Every effort should be made to prevent it or provide relief to the genuine [emphasis

for evacuation out of combat ... Conservation of manpower will strengthen units during ... combat in both numbers and morale.”⁶⁸ Low-level cohesion, a strong sense of identity and a sense of permanency are critical factors in preventing battle exhaustion. Ensuring soldiers are physically fit will also increase their personal limits of endurance.

TREATMENT

The forward treatment established in the Second World War by the Australians and Americans (and later the British) remains a proven method of dealing with battle exhaustion.⁶⁹ Getting battle-weary soldiers away from the immediate action is vital, but they must remain close enough so that their re-entry does not become a new traumatic experience. A few days rest, a hot meal and a chance to collect their wits will benefit *most* soldiers to the point where they can return to their units and generate fighting power. The profession of arms, specifically unit leaders, and not the medical profession, must take the lead in treatment and prevention.⁷⁰

CONCLUSION

The Canadian Army recognizes various components of fighting power as defined in this article, but they are scattered throughout several different doctrinal manuals. There is no focused attempt to understand the interdependency of the various components or any effort to see fighting power in a holistic sense. An army is far more than the sum of its parts. We may fight with vehicles,

bombs and guns, but we win or lose with the human element. The moral plane of an army must be cultivated and nurtured. Any positive movement we make toward coalescing our views on fighting power into a coherent path will serve us well in case the Army has to move "into the valley of the shadow of death" for real.



ABOUT THE AUTHOR...

Captain John Nelson Rickard is currently commanding 1st Troop, Recce Squadron in Lord Strathcona's Horse (Royal Canadians) Armoured Regiment. He is completing his Doctorate in Military History at the University of New Brunswick. His dissertation is on Lieutenant-General Andy McNaughton's command of the Canadian Army during the Second World War. Lieutenant Rickard is the author of "Patton at Bay: The Lorraine Campaign, September to December 1944" originally published by Praeger in 1999 and due to be re-released by Brassey's in November 2003.

ENDNOTES

1. B-GL-300-003/FP-000 *Land Force Command*, 1996-07-21, pp. 3-2, 3-3.
2. B-GL-300-002/FP-000 *Land Force Tactical Doctrine, Volume 2*, 1997-05-16, p. 1-11. The U.S. Army recognizes four elements of combat power-manoeuvre, firepower, protection and leadership. FM 7-8 *Infantry Rifle Platoon and Squad*, 1992.
3. United States Marine Corps, FMFM1, *War Fighting*, 1997. Clausewitz considered moral elements "among the most important in war." He considered will a moral quality. However, in his time he believed that moral elements "will not yield to academic wisdom. They cannot be classified or counted. They have to be seen or felt." Carl von Clausewitz, *On War* edited and translated by Michael Howard and Peter Paret (Princeton, New Jersey: Princeton University Press, 1984), p. 184.
4. Lieutenant-Colonel Lonnie D. Henley, "The RMA After Next," *Parameters: US Army War College Quarterly*, vol. XXIX, no. 4 (Winter 1999-2000), pp. 47-48; Dr. Steven Metz, "The Next Twist of the RMA," *Parameters: US Army War College Quarterly*, vol. XXX, no. 3 (Autumn 2000), pp. 48-50; Christopher Coker, *Waging War Without Warriors? The Changing Culture of Military Conflict* (Boulder, Colorado: Lynne Rienner, 2002).
5. *Dispatches: Lessons Learned for Soldiers, Training for Urban Operations*, vol. 9, no. 2 (May 2002), p. 34. The Americans identify courage and psychological preparation as important factors. See FM 3-06.11 *Combined Arms Operations in Urban Terrain*, February 2002.
6. Tim Ripley, *Bayonet Battle: Bayonet Warfare in the Twentieth Century* (London: Sidgwick & Jackson, 1999), pp. 231-246. A Royal Marine commando cadre assaulted Top Malo House with bayonets fixed but the Argentines fled. On Wireless Ridge 2 Para was counterattacked and ordered to fix bayonets but artillery fire stopped the Argentine advance.
7. Robert McQuie, "Military History and Mathematical Analysis," *Military Review*, vol. 50, no. 5 (May 1976), p. 16.
8. Colonel Trevor N. Dupuy, *Numbers, Predictions and War* (New York: Bobbs-Merrill, 1979). See also Dupuy's *Understanding War: History and Theory of Combat* (New York: Paragon House, 1987), pp. 57, 285. Dupuy's model was utilized by the U.S. Army for a period of time but was found wanting in many respects. Lieutenant-Colonel (ret) Roger Cirillo, USA to author, 7 June 2001.
9. Lieutenant-Colonel (ret) John A. English, *The Canadian Army and the Normandy Campaign: A Study of Failure in High Command* (New York: Praeger, 1991), p. 312; John Ellis, *Brute Force: Allied Strategy and Tactics in the Second World War* (London: Andre Deutsch, 1990), pp. xvii-xviii. See also B-GL-371-001/FP-001 *Land Force Field Artillery Doctrine*, 1999-06-22, p. 2.
10. B-GL-300-007/FP-001 *Firepower*, 1999-02-09, p. 2.
11. Here I would be on shaky ground with the great Clausewitz who declared that "We might list the most important moral phenomena in war and, like a diligent professor, try to evaluate them one by one. This method, however, all too easily leads to platitudes."
- Clausewitz, *On War*, p. 185.
12. Roberta Abbott and Colonel M.D. Capstick, eds., *Canadian Army Leadership in the 21st Century, Report of the Army Future Leadership Seminar*, 6-7 February 2002, Kingston, p. 32. There is ample proof that Canadian society cares little for the fortunes of the military. For example, if the Federal Government had declined to disband the Airborne Regiment in lieu of simply punishing those responsible for the Somalia incident, there would not have been any great public outcry. Moreover, there remains no public protest significant enough to convince Ottawa to address the deplorable state of the Sea King helicopter fleet and no ill effects were felt when half a billion dollars was wasted getting out of the replacement helicopter deal in 1993.
13. Abbott and Capstick, *Canadian Army Leadership in the 21st Century*, pp. 23-24.
14. Army Soldier Qualification 0304, Lesson Description "Leadership in Times of Peace and War," LFWA TC, 27 March 2003.
15. The media went to great lengths to portray her actions during the ambush as heroic. Officials said (correctly as it later turned out) that she had been shot in the leg and arm. However, there was no justification for claiming that she "fought fiercely and shot several enemy soldiers ... firing her weapon until she ran out of ammunition ... She was fighting to the death." Quoted in *The Globe and Mail*, 5 April 2003. Once she was back home, words like "dainty" were used to describe her in the press.
16. Netanel Lorch, *Shield of Zion: The Israeli Defense Forces* (Charlottesville, VA: Howell Press, 1991), p. 119. Israeli women now train separately from men and have all-female instructors.
17. Lieutenant-Colonel (ret) Michael L. Lanning and Dan Cragg, *Inside the VC and NVA: The Real Story of North Vietnam's Armed Forces* (New York: Fawcett Columbine, 1992), pp. 61-62.
18. Stephanie Gutmann, *The Kinder, Gentler Military: Can America's Gender-Neutral Fighting Force Still Win Wars?* (New York: Scribner's, 2000), p. 248; J.L. Granatstein, Canada's Army: Waging War and Keeping the Peace (Toronto: University of Toronto Press, 2003), p. 385. It should also be noted that many male recruits fail training due to injuries.
19. Anna Simons, "Women in Combat Units: It's Still A Bad Idea," *Parameters: US Army War College Quarterly*, vol. XXXI, no. 2 (Summer 2001), p. 91. She adds that "The issue of whether women in combat roles might actually improve combat effectiveness is another topic on which proponents of women in combat remain conspicuously silent" (p. 90).
20. Captain Thomas St. Denis, "The Dangerous Appeal of the Warrior," *Canadian Military Journal*, vol. 2, no. 2 (Summer 2001), p. 37.
21. Roger Beaumont, *Military Elites: Special Fighting Units in the Modern World* (Indianapolis & New York: Bobbs-Merrill, 1974), p. 7.
22. Colonel Kenneth Watkins, "Warriors, Obedience and the Rule of Law," *Army Doctrine and Training Bulletin*, vol. 3, no. 4/vol. 4, no. 1 (Winter 2000), p. 27.
23. Major (ret) The Reverend Arthur E. Gans, "Vocation or Job: A Warrior's Place in a

- Rights Driven Society," *Canadian Defence Quarterly*, vol. 24, no. 2 (Winter 1994), p. 13.
24. Lieutenant-Colonel D.A. Nicholson, "Where Have All the Tigers Gone?" *Canadian Defence Quarterly*, vol. 2, no. 4 (Spring 1973), p. 24.
25. Col. Yasotay, "Warriors: An Endangered Species," *Armed Forces Journal International* vol. 14, no. 4 (1984), p. 119.
26. Colonel C.P. Stacey, *Official History of the Canadian Army in the Second World War, vol. I: Six Years of War: The Army in Canada, Britain and the Pacific* (Ottawa: Queen's Printer, 1957), pp. 114-115. The American Army experienced the same problem. See Robert R. Palmer, et al., *The Procurement and Training of Ground Combat Troops U.S. Army in World War II: European Theater of Operations* (Washington, D.C.: Government Printing Office, 1948), p. 3. Our current recruiting challenge comes from the growing economy that creates "increased competition for the services of young, skilled Canadians." CDS Annual Report 2002-2003.
27. B-GL-300-008/FP-001 *Training Canada's Army*, 2001-08-30, p. 6.
28. B-GL-300-000/FP-000 *Canada's Army: We Stand on Guard for Thee*, 1-03-98, p. 31. This document declares that the basis of the profession of arms includes a high standard of discipline.
29. John Ellis, *The Sharp End: The Fighting Man in World War II* (New York: Scribner's, 1980), p. 191.
30. Granatstein, *Canada's Army: Waging War and Keeping the Peace* (Toronto: University of Toronto Press, 2002), p. 386.
31. Bruce Condell and David T. Zabecki, eds., *On the German Art of War: Truppenfuhrung* (Boulder, Colorado: Lynne Rienner, 2001), pp. 18-19.
32. Martin van Creveld, *The Transformation of War* (New York: The Free Press, 1991), p. 180.
33. Johnathan Shay, "Ethical Standing for Commander Self-Care: The Need for Sleep," *Parameters: US Army War College Quarterly*, vol. XXVIII, no. 2 (Summer 1998), p. 93.
34. B-GL-300-008/FP-001 *Training Canada's Army*, 2001-08-30, p. 39.
35. Lieutenant-Colonel Dave Grossman, *On Killing: The Psychological Cost of Learning to Kill in War and Society* (Boston: Little, Brown, 1995), introduction.
36. B-GL-300-008/FP-001 *Training Canada's Army*, p. 3.
37. FM 7-8 *Infantry Rifle Platoon and Squad*.
38. Kelly C. Jordan, "Right for the Wrong Reasons: S.L.A. Marshall and the Ratio of Fire in Korea," *The Journal of Military History*, vol. 66, no. 1 (January 2002), pp. 136-137. Marshall clearly fabricated the statistics upon which he based his observations. See Roger J. Spiller, "S.L.A. Mashall and the Ratio of Fire," *Journal of the Royal United Services Institute*, no. 133 (Winter 1988), pp. 67-71; Frederic Smoler, "The Secrets of the Soldiers Who Didn't Shoot," *American Heritage*, vol. 40 (March 1989), pp. 37-45. The two questions Mashall asked were "did you see the enemy?" and "did you shoot at him?"
39. Major William Beaudoin, "The Psychology of the Bayonet," *Army Doctrine and Training Bulletin*, vol. 2, no. 1 (February 1999), p. 19. He adds that even today bayonet training "should always have a place in both identifying and developing mental toughness in our soldiers" (p. 20).
40. B-GL-300-003/FP-000 *Land Force Command*, p. 1-7.
41. Field Marshal the Viscount Montgomery of Alamein, *The Path to Leadership* (New York: G.P. Putnam's Sons, 1961), p. 10. He added "It is no use having the capacity if you haven't got the will to use it."
42. *Future Army Capabilities*, DLSC Report 01/01, January 2001, p. 16.
43. Lieutenant-Commander George Shorley, "Bystander Non-Intervention and the Somalia Incident," *Canadian Military Journal*, vol. 1, no. 4 (Winter 2000), p. 27; *Dishonoured Legacy: The Lessons of the Somalia Affair* Report of the Commission of the Inquiry into the Deployment of Canadian Forces to Somalia, 1997, vol. I: see chapters 13-14.
44. On March 16 1968 Lieutenant William L. Calley's platoon began an orgy of violence against the village of My Lai. WO Hugh C. Thompson, flying in his helicopter, saw the fire and descended to investigate. He ordered his door gunner to shoot Calley if he interfered with Thompson's efforts to evacuate the survivors. Lieutenant-Colonel Harry G. Summers, Jr., *Historical Atlas of the Vietnam War* (Boston: Houghton Mifflin, 1995), p. 140.
45. Major Bernard Tan, "Auftragstaktik: A Critical Analysis of the Concept and its Viability in the Future," *British Army Review*, no. 109 (April 1995), p. 6.
46. 34% indicated a lack of confidence in senior officers. Across the CF generally there is a lack of confidence in leadership. Dr. Allan A. English, "Operational Stress in the Canadian Forces," *Canadian Military Journal*, vol. 1, no. 3 (Autumn 2000), p. 36; *Quality of Life in the Canadian Forces: Results from the National Survey, Sponsor Research Report 01-13*, October 2001.
47. General Sir John Hackett, *The Profession of Arms* (London: Sidgwick & Jackson, 1983), p. 219.
48. Clausewitz, *On War*, p. 104.
49. B-GL-300-002/FP-000 *Land Force, Volume 2, Land Force Tactical Doctrine*, p. 1-4.
50. Human error was the chief culprit in the majority of ninety-eight artillery fratricide incidents identified in World War II, Korea and Vietnam. Lieutenant-Colonel Charles R. Shrader, *The Problem of Friendly Fire in Modern War* Combat Studies Research Survey No. 1 (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, December 1982), p. 76.
51. Colonel (ret) E. Peter Green, "The Canadian Forces and Their Medical Services," *National Network News*, (Fall/Winter 2002), pp. 22-23. Medical personnel are 15% below PML "and not showing any signs of recovery." (Capability Outlook 2002-2012, July 2002, p. 12).
52. Lieutenant-Colonel Jim Smith, *Operation Iraqi Freedom: PEO Soldier Lessons Learned*, 15 May 2003, Draft, p. 4.
53. David French, "Tommy is No Soldier: The Morale of the Second British Army in Normandy, June—August 1944," *Journal of Strategic Studies*, vol. 19, no. 4 (December 1996), p. 56.
54. B-GL-300-003/FP-000 *Command*, p. 1-10. Clausewitz indicated that great cohesion was represented by an army that stayed together "under the most murderous fire," could not be "shaken by imaginary fears and resists well-founded one with all its might," would not "lose the strength to obey orders and its respect and trust for its officers even in defeat" and whose physical power, like the muscles of an athlete, has been steeled by training in privation and effort (*On War*, p. 187).
55. Yet evidence also clearly indicates that the Germans fought for ideology. Edward A. Shils and Morris Janowitz, "Cohesion and Disintegration in the Wehrmacht in World War II," *Public Opinion Quarterly*, vol. 12 (1948), p. 281; Omer Bartov, "Indoctrination and Motivation in the Wehrmacht: The Importance of the Unquantifiable," *Journal of Strategic Studies* (March 1986), pp. 31-32.
56. W. Victor Madej, "Effectiveness and Cohesion of the German Ground Forces in World War II," *Journal of Political and Military Sociology*, vol. 6 (1978), p. 233.
57. David Bercuson, *Blood on the Hills: The Canadian Army in the Korean War* (Toronto: University of Toronto Press, 1999), p. 91.
58. *Capability Outlook 2002-2012*, July 2002, p. 23.
59. Lieutenant-Colonel PPJ. Lessard, "The Army Reserve on Operations: Reconsidering how Reservists are Integrated on Overseas Operations," *The Army Doctrine and Training Bulletin*, vol. 5, no. 4 (Winter 2002-2003), p. 39.
60. B-GL-300-004/FP-001 *Land Force Sustainment*, 1999-01-18, p. 82.
61. Major-General E.L.M. Burns, *Manpower in the Canadian Army, 1939-1945* (Toronto: Clarke, Irwin, 1956), pp. 76-88.
62. Michael Snider, "Firefight at the Medak Pocket," *Maclean's* (2 September 2002), pp. 44-46.
63. Colonel G.J. Oehring (Ret'd), "Peacekeeper's Stress," *The Bulletin*, vol. 7, no. 1 (June 2000), p. 6.
64. B-GL-309-003/FT-001 *The Infantry Section and Platoon in Battle*, p. 14-2-4.
65. Major-General A.S. Jeapes (Ret'd), "Stress in Battle," *Infantry Journal*, No. 28 (Spring 1995), p. 18.
66. Quoted in *The New York Times*, 8 October 2000.
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68. Dr. Jacques J. Gouws, "Post-Traumatic Stress Disorder, Land Force Operations," Command and Staff College Course, Kingston, 31 May 1999, p. 10.
69. Terry Copp and Bill McAndrew, *Battle Exhaustion: Soldiers and Psychiatrists in the Canadian Army, 1939-1945* (Montreal & Kingston: McGill-Queen's University Press, 1990), p. 48.
70. English, "Operational Stress in the Canadian Forces," p. 37; Gouws, "Post-Traumatic Stress Disorder," p. 10.

From Chartered Accountant to Academic Professor

The War and Peace-time Experiences of Robert Randolph Thompson, Professor of Accounting and Scientific Management McGill University 1921 to 1943

by Dr. J. Black

INTRODUCTION

This paper concerns itself with the life and times of Lieutenant-Colonel RR Thompson, who originally joined the Volunteers in England in 1900 and subsequently served in the First World War as a commissioned Territorial Officer in the 1/5th Battalion, the Argyll and Sutherland Highlanders. For a short period of time, Thompson was a regular officer in the experimental Corps of Military Accountants, which existed on the establishment of the British Army. This corps only survived on the British establishment for six years. Today it is a little known corps, and its actual role is often misunderstood. The Corps of Military Accountants and the cost accounting experiment in the British Army are part of a wider research portfolio by this author into the overall reforms in accounting and finance within the public sector in Britain.

The career of Lieutenant-Colonel R.R. Thompson is of interest perhaps to both military historians and academics particularly in the field of management education, as he pursued an academic career in Canada during the post 1918 era, becoming Professor of Accounting and Scientific Management at McGill University from 1921 to 1943. At that time, the disciplines of accounting, finance and indeed management education were not regarded in Britain as being part of a university curriculum.

The history of Lieutenant-Colonel Thompson has been pieced together through a number of primary source documents. These include the journal of the Corps of Military Accountants, called *The Balance*,¹ which was published for two years between 1923 and 1925, and the personal military file for Colonel Thompson for his service in the British Army, now held in the Public Record Office (PRO), Kew, London,² and his Canadian militia file, now held in the National Archives, Canada.³ Little has been written on the topic of the cost accounting experiment in the British Army 1917—1925, one paper being published in an Australian accounting journal nearly fifty years ago⁴ and a more recent paper written by the author in 2001,⁵ together with two conference papers in 2003.⁶

PRE-1914, EARLY LIFE AND BEGINNINGS OF THOMPSON'S MILITARY INVOLVEMENT IN THE VOLUNTEER'S AND THE TERRITORIAL FORCE

Robert Randolph Thompson was born at Wallasey, Cheshire in 1884. His father, Robert Denton Thompson, was of Scottish origin and, at the time of Robert's birth, was a civil engineer being the Resident Engineer for Birkenhead Docks of the Merseyside Harbour and Docks Board. Thompson was educated at Wallasey Grammar School and was articled to a chartered accountant in Liverpool on leaving school. On 3 April 1901, at the age of 17 years, Thompson enlisted into the 1st Volunteer Battalion, the Cheshire Regiment (Cyclists). The volunteer battalions were the forerunners of the Territorial Force, which was formed in 1908. Thompson resigned from the Volunteers at the time of their disbandment. He gave his reason for resigning as due to pressure of work owing to his forthcoming finals for the examinations relating to the Institute of Chartered Accountants of England and Wales (ICAEW). Though none of the records exist for his service in the Cheshire Volunteers, the information relating to this service came from Thompson's Record of Service (AF B 199), issued by the Infantry Record Office Preston, in 1924, which is now in his personal file in the PRO. In 1924 Thompson was attempting to accumulate his volunteer and territorial service in the British Army for consideration of the award of the "Colonial Auxiliary Forces Officers' Decoration."⁷ In correspondence to the "The General Officer Commanding, Military District No. 4, 50 Bishop Street Montreal," Thompson explains in paragraph (G) of his application that a

Letter from the Cheshire Regiment explaining that the regimental records have been lost or destroyed. This explains my having to obtain record of my services in this regiment from the War Office records (AF B 643). I left the regiment on the formation of the Territorial Forces, the orderly rooms were very busy at the time, and I, with others, never received our discharges.⁸

However Thompson duly passed his final examinations in 1909 and was admitted to the ICAEW as an associate member. Two years later, in November 1911, Thompson enlisted into the ranks of the Territorial Force as a private (Regimental Number 2344) in the 10th (Scottish) Battalion the King's Liverpool Regiment (Territorial Force). In 1912 Thompson moved to Glasgow on taking up an appointment as an auditor with the newly formed National Insurance Board, and he transferred to the 1/5th Battalion, the Argyll and Sutherland Highlanders. During the following year, Thompson was commissioned into the battalion, and his records state that he undertook a course of instruction with the 1st Light Battery Royal Field Artillery, Retford Barracks, Edinburgh in "Stable-Management, Driving and Horsemanship."⁹

THE FIRST WORLD WAR, GALLIPOLI (CAPE HELLES), EGYPT, PALESTINE AND THE UK

In August 1914, the Territorial Force was mobilized, and the 1/5th Argyll's were embarked from Avonmouth in early 1915 as a component of the 52 (Lowland Scottish) Division, of the Territorial Force, being part of the Mediterranean Expeditionary Force. The 1/5th Argyll's, along with the majority of the 52 (Lowland) Division, landed at Cape Helles on the Gallipoli Peninsular and remained there for five months. After the evacuation from Gallipoli, the 1/5th Argyll's returned to Egypt, then participated in early 1916 in the battles around the Sinai and Gaza area of Palestine. Thompson was awarded the Military Cross in October 1916 and mentioned in dispatches. Whilst on active service in Gallipoli, Egypt and Palestine, Thompson was employed in numerous regimental roles, including acting as company commander, intelligence officer, transport officer and finally as adjutant.

However, Thompson was medically evacuated back to Britain in October 1917, suffering from "neurasthenia

caused by over-work and shell shock." During the last year of the First World War, Thompson was stationed in various locations in Britain. He attended No. 1 School of Instruction for Infantry Officers, was recommended for company commander positions, and was reported on as "A capable officer with a sound tactical knowledge."¹⁰ Thompson was also employed as an instructor to "a class of 100 officers at my regimental depot (Argyll & Sutherland Highlanders) at Ripon, to instruct them in tactics, when our depot was moved, I was put in charge of a musketry-instructional camp at Melrose, until September [1918], when I was posted to the 52 HLI [Highland Light Infantry], a training unit."¹¹ Thompson ultimately became the author of the official history of the 52 (Lowland Scottish) Division during the period of the First World War, which was published in 1923.

THOMPSON AND THE WAR OFFICE COST ACCOUNTING COMMITTEE AND THE COST ACCOUNTING EXPERIMENT 1919-1921

During the summer of 1918, the War Office conducted an embryo pilot scheme based on seven military units in southern England to assess the system of cost accounting within those units. It is not the purpose of this paper to discuss fully the technicalities of the cost accounting experiment, but it related to the introduction of commercial principles of accounting into the British Army. Until 2003, central government and civil service accounting, including the Ministry of Defence (MOD), was based solely on cash transactions (single entry accounting only). Resource accounting and budgeting (RAB), was only introduced into British civil service accounting in 1996. The architect of the original cost accounting experiment was the Assistant Financial Secretary to the War Office, Sir Charles Harris, assisted by his staff officer, later to become the

acting Cost Accounts Controller of the War Office, Lieutenant-Colonel James Grimwood, DSO, South Wales Borderers (SWB). Grimwood had previously been a Regular Army officer, 1892–1898, who trained as an incorporated accountant on leaving the Army.¹² The military units selected for this experiment were as follows:

- ◆ 52 (Graduated) Battalion The King's Royal Rifle Corps;
- ◆ A Horse Transport Company Royal Army Service Corps;
- ◆ The Prisoner of War Camp Feltham, Middlesex;
- ◆ The Army Sausage Factory, Poplar, London;
- ◆ The Army Boot Factory, Old Kent Road, London;
- ◆ The Cambridge Military Hospital, Aldershot, Hants; and
- ◆ The Royal Herbert Hospital, Woolwich, London¹³

The pilot experiment was extended in January 1919 to cover Western Command in England and Wales, with its headquarters at Chester. About 100 temporary or Territorial Force officers were appointed to the experiment as temporary station officers, many of whom were professional accountants, including Thompson. On 1 January 1919, Thompson was appointed as Temporary Station Accounting Officer and appointed to Headquarters Western Command. Later, in November 1919, the cost accounting experiment was extended to encompass the whole of the Regular British Army, and Thompson was transferred to the new Corps of Military Accountants (the vehicle of implementing the cost accounting experiment) and posted to Headquarters Scottish Command in Edinburgh, where he became Accounting Officer 5th Class. At that time, Thompson successfully applied for a permanent commission in the Regular Army and the Corps of Military Accountants. However, there

was still a concern over his health. Between 1920 and 1921, Thompson had made contact with McGill University, Montreal, Canada, and had been offered the post of Associate Professor of Accounting. It was agreed that Thompson should be retired on retired pay from the British Army on the grounds of ill-health contracted on active service.¹⁴

There appeared to be some difficulty with the administrative arrangements leading to the retirement on health grounds of Thompson. On the one hand Thompson was allowed to accept

me ...still I cannot help worrying, although I try not to, it only brings on recurrences of this neurosis ...¹⁶

Thompson was allowed to retire on health grounds from the British Army and made the appointment at McGill University by September 1921. His decision to leave the Corps of Military Accountants was, in light of history, a good choice. The British Treasury, orthodox as always, was not particularly enthusiastic about the cost accounting experiment in the British Army. Indeed, the Treasury only agreed to the cost accounting

cutbacks. Those of the 1920s reflect the Geddes “axe.” Under the chair of Sir Eric Geddes, three reports recommended the reduction of funding to the Army, the Navy, the Royal Air Force and the Board of Education.¹⁷ The Army took the brunt of the cutbacks, which were dearly felt in 1940.¹⁸ However, the cost accounting experiment was one small victim of the Geddes “axe,” saving the British taxpayer £6m per annum.¹⁹

It is worth mentioning that three holders of the Victoria Cross served with the Corps of Military

It is worth mentioning that three holders of the Victoria Cross served with the Corps of Military Accountants during its short life...

a permanent commission and had succeeded in passing the required medical board for that purpose. Then some months later, a further medical board recommended that he be retired from the British Army on the grounds of ill health! About one third of Thompson’s personal file relating to his service in the British Army concerns this controversy. In a letter dated 23 February 1921 and addressed to Colonel EW Crawford DSO, the Officer in charge of The Corps of Military Accountants Record Office at the War Office, Thompson explains that:

I have heard from the McGill University and they have instructed me to report there on the 1st Sept. In order for me to be there in time, I have had to book passages for my wife and myself to sail on the 5th August, the next available sailing time being too late. I was just in time to get these two, as the Atlantic promises to be busy this summer.¹⁵

Thompson was requesting that he be released from the British Army by 31 May,

...or sooner if it is better for you—is that I am badly in need of a good long rest, but most of all a complete rest from worry. Someone has suggested to me that the War Office might hold up my resignation, and perhaps spoil my taking up this appointment, which would be a terrible disappointment to

experiment taking place at all, if the traditional estimate and cash system administered by the Royal Army Pay Corps also continued to be administered within the Army.

The 1920s were difficult years in terms of the global economy in the post First World War era. The Treasury was not particularly generous during the post-1918 period with mass demobilization and the reduction of the British Army from strength of 3 million to the peacetime strength of around 100,000. Neither were the Army Council and military commanders in favour of the experiment. Part of the problem was that the Army had to administer two systems, both the traditional and the experimental. This was suggestive of a duplication of effort and an apparent misuse of resources at a time of national expenditure cuts. However, a second reason for the unenthusiastic support of the cost accounting experiment is a little subtler. For example, the cost accounting experiment was a more transparent system of measuring efficiency than the traditional cash and estimate system. However, the psyche of all British governmental policy during the inter-war period reflected public savings administered through ever increasing national expenditure

Accountants during its short life: two British—Major AC Herring, a chartered accountant, who was awarded his VC in March 1918 whilst serving with the Army Service Corps attached to the 6th Battalion Northamptonshire Regiment, and Captain S Meekosha, who was awarded his cross in 1915 whilst a corporal with the 14th West Yorkshire Regiment (the Leeds Pals), and one Canadian, Captain George Burden McKean VC, MC, MM. McKean and Meekosha were not professional accountants but served in the Corps of Military Accountants until its termination in December 1925. Captain McKean served at the Army Pay and Record Office, Brighton, then with the Corps of Military Accountants detachment in Cairo, Egypt.²⁰ Unfortunately, within a year of leaving the British Army and the Corps of Military Accountants, Captain McKean was killed in an industrial accident in England.²¹

PROFESSOR OF ACCOUNTING AND SCIENTIFIC MANAGEMENT AND LIEUTENANT-COLONEL COMMANDING MCGILL UNIVERSITY OFFICER TRAINING CORPS

Thompson accepted the position of Assistant Professor of Accountancy at McGill University in 1921, and

between 1921 and 1924 this extended to the disciplines of industrial and business organization. Between 1928 and 1931, Thompson was appointed Professor of Accounting and Scientific Management, becoming Head of the Department of Accounting within the School of Commerce between 1937 and 1939. From 1940 until 1943, Thompson was chairman of the Accounting Committee in the School of Commerce. Thompson was, no doubt, a talented man and served his adopted country and McGill University extremely well. In contemporary Britain, he would have not found such a post, as these subjects were still regarded as not applicable to a university curriculum, despite some modest attempts at Birmingham University prior to 1914. The University of London had introduced economics within the London School of Economics from 1898, and a Bachelor of Commerce degree course from the time of the First World War. British business, however, did not regard a university education as a means of entry into the field of management or entrepreneurship.²² The business and commercial community regarded the utilitarian training on the shop floor, or through articleship for accountants and solicitors, as the necessary way to train for the respective trades and professions. Practical performance was the criterion for such training, and there was little in the way of support for theory based research activities. The differences between the English and the Canadian contemporary university curriculum and it aims is evident from one of Thompson's extra curricular lectures. Here, Thompson gave, from time-to-time, public lecture on the double functions for universities, stressing the importance of commerce being taught as part of a university curriculum. In one particular lecture given to the Advertising Club of Montreal at the Mount Royal Hotel, Thompson stated that:

One only has to consider the plight of the world today to realize the importance of commerce in our social structure ... Because it has stopped flowing freely

and the exchange of goods throughout the world has become so small, we are threatened with a very dark future, unless matters are improved. Does it not astonish us to think of this and to realize that only within our generation have some of our great universities had a section called a faculty or school specially set apart for the study of commerce, and with a curriculum planned specially to prepare men for dealing with the problems of commerce. McGill University tries to give students a special preparation for commerce. In our courses in economics, the students study the broad foundations of commerce and our social structure, and especially the problems of subjects, which belong to Canada, the British Commonwealth and North America. ...I am sure that I speak for our co-workers at the University of Montreal and for my colleagues of the McGill University School of Commerce when I say that we are doing our best to prepare men for the problems of commerce....²³

Indeed, Thompson's career is interesting in that he never attended a university as a student but was trained as a chartered accountant by the traditional method of articleship. However, his experiences in both the British Army and the Canadian militia gave him the knowledge in leadership, organization and structure, as well as the methods of instruction to train large numbers of students in a relatively short period of time. Evidence of this has already been given in respect of Thompson's post 1917 career. There is also further evidence in his Canadian militia file. In one of his letters to the Canadian military authorities of 1940, Thompson stated that under his leadership within the Department of Commerce at McGill University, the Department had expanded,. Thompson commented that whilst, "Professor of Accountancy and Head of the Department at McGill University from October 1921 to present date [17 April 1940], during which period my staff has grown from 2 to 12, and frequently I have had to handle classes of over 100 students."²⁴

Thompson became the Officer Commanding of McGill University Officer Training Corps (OTC) in 1922. His Canadian militia file is made of two features, including his evidence for the qualification of the Colonial Volunteer Decoration, which Thompson applied for in 1926. The second part of Thompson's file relates to correspondence requesting some active role in the Canadian or British Army at the time of the Second World War.

In relation to the first, Thompson applied on 16 June 1926 for consideration for the Volunteer Decoration. Service for this apparently included previous service in the British Volunteer movement prior to 1908 and the Territorial Force, war service counting as double. However, his service in the Corps of Military Accountants was not allowed as he had held a permanent commission, albeit for a brief period of time. On 6 December 1926, the Colonial Auxiliary Forces Officers' Decoration was awarded to Thompson under authority of General Order 68 dated 15 November 1926. The communiqué notifying the award requested that, "receipt be acknowledged and steps taken to have the decoration presented, please." A further communiqué for the same year on an official record of service form "Active Militia of Canada" notified Thompson of his promotion into the rank of Lieutenant-Colonel.²⁵

The 1920s and 1930s were busy years in the academic world for Thompson. Outside of his formal academic engagements, Thompson gave a diverse range of lectures to different groups within Montreal, ranging from the Scottish Borders to the Mechanic's Institute, Art from the Ages, Professor Thompson discusses Art from changes traced down the ages, again to the Mechanics' Institute, lectures on Scottish ballads of the Lowland Scottish tradition to the Women's Art Society in Stevenson Hall.²⁶ (One hopes that Lieutenant-Colonel Thompson did not expose these ladies to ballads he may have learnt from

his previous service with the 10th Liverpool Scottish, or with the 1/5th Argyll's'!).

Thompson also gave individual lectures to the OTC and others on the following military subjects "The Gallipoli Campaign", "The Sinai Desert Campaign," "Allenby's Campaign for the Capture of Jerusalem," etc.²⁷ Thompson also reported in a letter to Group Captain ATM Cowley Royal, Canadian Air Force, at the Department of National Defence, Ottawa, dated 17 April 1940, that, "During this winter [1939/40], I have given various courses of lectures to active and reserve officers (about 600 altogether) in Montreal, under the auspices of HQ, mM.DD. No. 4, on 'The New Arms, Tactics & Organizations for the British Army.' I did this without remuneration."²⁸

The Summer of 1939, Staff College England, Attempts to Return to the Active List

The majority of Thompson's Canadian militia file relates to his endeavours to return to active service either with the Canadian Army or the British Army in 1939 with the outbreak of the Second World War. An example of this is from the letter to Group Captain Cowley, part of which is quoted above. Thompson was requesting to be considered for an appointment for command of a flying school, which at the time was being created in Canada.²⁹

From 17 February 1934 Thompson had been placed on the retired list, though from 26 September 1938, he had been placed on the Corps reserve with McGill University OTC.³⁰ His statement of Service and Qualifications of 26 September 1938 records that Thompson was qualified for the rank of Colonel (Non-Permanent Active Militia or NPAM).³¹ He was succeeded as OC McGill University OTC Contingent by Provisional Major JW Jeakins MM, who had served during the First World War with the Canadian Expeditionary Force with Princess Patricia's Canadian Light Infantry and was commissioned in the

field on 1 July 1917. Jeakins also taught at McGill University in the School of Commerce. He chaired the meeting of the Advertising Club of Marketing, Montreal in which Thompson had made his speech on commerce and universities, as previously mentioned. In 1938 Thompson made application to attend the 17th Territorial Army Corps at the senior Officer's School from 10 to 22 July 1939. Thompson actually attended an extended staff officer's course in England for eight weeks just prior to the outbreak of war. He did this at his own expense.

Thompson disembarked at Tilbury, London on 11 June 1939, and spent one month with the 1st Battalion the Gordon Highlanders stationed at Talavera Barracks, Aldershot, where he was instructed in the new rifle drill for an infantry battalion including the Bren light machine-gun and the Boys anti-tank rifle. From the 1st Gordon's, Thompson attended the senior Territorial Officer's course at Sheerness, Kent and was instructed in the logistical support of maintaining an infantry battalion in the field, particularly the planning and routing of a battalion's mechanical transport under active service conditions. From Sheerness, Thompson proceeded to the Royal School of Artillery, Larkhill, Salisbury Plain, Wiltshire, where he was acquainted with the new 2-pounder anti-tank gun and artillery covering fire in respect of support of an infantry battalion using 18- and 25-pounder batteries. From 30 July to 12 August 1939, Thompson attended the Staff College, Camberley, Surrey. The objective of the course was to train staff officers for brigade and divisional formation staff. Thompson emphasized that, "In this course, matters were looked at from the stand points of the staff and commanders of brigades and divisions and great emphasis was laid on organization and supply, movements by motor-transportation, verbal orders and the writing out of orders, besides strategy and tactics."³²

On his return to Canada, Thompson wrote a lengthy report, dated 19 August 1939, to the General Officer Commanding Military District No. 4 in Montreal. One part of the report is interesting as it reflects on the personnel of the British Army of 1939 as a consequence of the Secretary of State for War (Hore-Belisha) and his previous policy of prematurely retiring senior officers of the Army from 1937 to 1939 in order to advance more junior officers into the higher echelons of the Army earlier in their careers. Thompson reported the following:

Personnel. The British Government has had to go back on the scheme initiated by Mr Hore-Belisha for the earlier retirement of senior officers in order to encourage juniors by more rapid advancement. This scheme did not envisage the present huge increase of the army, which has produced a great shortage of officers, especially seniors, who take the longest to train. On the one case there have been cases of Territorial Force Associations appointing commanding officers very young men with no active service at all, whilst war-experienced men still in their prime who have taken years and cost much to train, were being retired. The British Governments have recognized the situation and officers who have been retired have been re-employed. This includes territorial Lt.Colonels with war-service, who have been called back to command battalions. In spite of this, should war break out and a British Expeditionary Force be sent overseas, it is expected that there will be a great shortage of senior and experienced officers for staff work with divisions, and higher up and behind the lines...³³

In terms of Thompson' description of the personnel problem of the British Army and in particular the Territorial Army as at the summer of 1939, this should be treated with some caution.

As previously stated, Hore-Belisha did not make himself too popular over this issue. In fact, it was due to Hore-Belisha's insistence that the protocol of limited liability in terms of the British Army were dropped in favour of a joint defence plan for Britain and France, including the planning and training of a British Expeditionary Force (BEF) to be deployed to Europe in support of any French defence. This involved the preparation of a BEF consisting of 19 infantry divisions and two cavalry divisions. The British Army was to be increased to 32 divisions, including six Regular and 26 Territorial divisions. The Regular Army was increased in size through the introduction of conscription under the militia scheme. This involved no more than calling up all men aged 20 and 21 for six months compulsory full-time military training. Mowatt stated that, "... to impose conscription on the British people in peace time was a tremendous break with the past. It owed much to the pressure of Hore-Belisha at the War Office, and to Conservative party opinion."³⁴ For the British, this was the first time conscription had been introduced in peacetime. Hore-Belisha was probably the man who made the British Army into a relatively modern formation by

The policy put forward by Hore-Belisha, which removed many senior officers from the active list, allowed the advancement of senior British Army officers such as Alexander, Gort and Montgomery who were able to reach staff positions much earlier than would otherwise have been the case. The obituary of Hore-Belisha published in the Times 26 February 1957 was written by Captain Liddell Hart. Liddell Hart praised Hore-Belisha in his decision to appoint Gort as Chief of the Imperial General Staff (CIGS), from far down the list of other possible candidates. Hore-Belisha also raised the status of the Territorial Army and attempted to integrate the Territorial and Regular Army into a one Army concept. He appointed Lieutenant General Sir Walter Kirke to the Army Council as Director General of the Territorial Army, and attempted to stimulate recruiting into the Territorial Army through reforms in pay and allowances and working conditions.

Unfortunately, Hore-Belisha was not popular with many senior officers and politicians. Indeed friction occurred between Hore-Belisha and his protégé, Gort over the defences in France. Gort became the Commander-in-Chief

also a degree of prejudice towards Hore-Belisha, who was a Jew, and there has been some suggestion that anti-semitic pressures drifted about the Palace of Westminster. Hore-Belisha also supported the policy of *la carrière ouverte aux talents* and believed that soldier with the right qualities should be commissioned from the ranks. His views on closer co-operation with Europe, particularly France, also did not go down too well with the contemporary British establishment! Much to the surprise of many, Hore-Belish resigned his office on 4 January 1940. Although Hore-Belisha was offered the post as President of the Board of Trade he declined Chamberlain's offer and he sat throughout the war as a backbench member of parliament for the Devonport constituency in Plymouth, first as a national Liberal, then from 1942 to 1944 as an Independent, and from 1944 as a Conservative.³⁵

Notwithstanding his overly critical take on the Hore-Belisha policy Thompson was astute to detect flaws in new equipment within the British Army in his report. In particular, despite the enthusiasm of British infantry regimental and company commanders to the introduction of the

Hore-Belisha was probably the man who made the British Army into a relatively modern formation by 1939...

1939 compared to its relative decline since 1918. Indeed, Hore-Belisha reversed the decline of expenditure on the Army, originally sanctioned by the Geddes Report of 1922, which were followed in 1932 by the May Report. The strategy of Hore-Belisha tactics was not as bad as considered by Thompson. In fact, Thompson may have been rather too critical in his report of this part of British military policy. British Territorial officers that he met while attending the senior Territorial Army officers' course at Sheerness may have influenced him. Thompson may also have been influenced by his own sense of failure to return to active service between 1938 and 1939.

of the British Expeditionary Force in 1939, and on a tour of the defences in France during November 1939 which Gort assumed were sound, Hore-Belisha drew attention to the weaknesses in the Ardennes sector, which lay beyond the flank of the Maginot Line. However, Hore-Belsiha was criticized for apparent complacency regarding the increase in anti-aircraft defences in Britain, and the purge he undertook in the War Office. However, many Territorial infantry regiments, particularly in London were actually converted into Royal Artillery anti-aircraft regiments between 1937 and 1939, and accusation of complacency would appear to be unfounded. There was

Boyes anti-tank rifle, Thompson argued that the Boyes projectile shell would not penetrate German armour. This proved to be accurate some nine months later in France. Whilst acting as an observer to a brigade exercise on Salisbury Plain, Thompson also noted the lack of enthusiasm with the deployment of Army RAF Cooperation squadrons by military commanders at divisional, brigade and regimental level. Only one junior company commander deployed an RAF Cooperation squadron in order to take ariel photographs of his rifle company dug in on Salisbury Plain! Thompson was also was particularly critical of the use, or rather lack of use,

of motorcycle regiments. The purpose of motorcycle regiments was to provide reconnaissance and to act as flanking screens for infantry. In reality, they were deemed by commanders from division downwards to be a reserve of dispatch riders and "... lost a large fraction of its proper strength in this manner ..." ³⁶ No doubt Thompson had a keen eye on the motorcyclist battalion, from his first military experience in the Cheshire cyclist battalion some forty years previously. The cyclist battalions of the pre-1908 Volunteers had exactly the same role as intended for the motorcycle regiments of 1939.

From 1938 until 1940, Thompson made numerous applications to both the Canadian Department of National Defence and various senior officers in the British Army soliciting

which were in his active service during the First World War.

CONCLUSION

The military and academic career of Thompson is particularly of interest to historians of all categories as it gives an insight to both British and Canadian professional and academic life. Thompson's military experience also gives a valuable insight into the world of the Volunteer movement and Territorial Force before 1914 and that of the Canadian militia in terms of a university OTC. Thompson's attendance at the Staff College in England during the summer of 1939, and his description of the state of the British Army in Britain on the eve of the Second World War is very revealing. The organization of the British Army at that point of time was due to the

as not to practice it within their professional duties. Indeed, the obituary of Thompson stated that he was "A member of the Institute of Chartered Accountants of England and Wales, Thompson served for many years as an examiner for the Society of Chartered Accountants of the province of Quebec and, in addition to his work of lecturing to chartered accountants and students, took an active interest in the early development of the Canadian Society of Cost Accountants and served on its board of directors, and as its President."³⁷

The cost accounting experiment in the British Army was terminated in December 1925 and has been largely ignored by historians. A Treasury inter-departmental committee of 1950 (The Crick Committee), reflecting on the cost accounting experiment in the British Army

Thompson was astute to detect flaws in new equipment within the British Army in his report...

consideration for a more active role. Thompson's requests became more numerous after attending the Territorial Staff Officers' course in England. The last letter on Thompson's personal file in respect of his service in the British Army is from Major-General BCT Paget, DSO, MC, Commandant of the Staff College, Camberley, forwarding a request by Thompson for consideration of a post in the British Army to the Military Secretary's Department at the War Office.³⁷ (In 1940, Paget became Commander of home defence in Britain, including having overall command of the Home Guard. Had a similar force existed in Canada during the Second World War, no doubt Thompson would have found a home in it.). No such post was ever offered to Thompson, however, and he continued to teach at McGill University until his retirement in 1943. Two years later, in July 1945, Thompson died after previously suffering from ill health, the origins of

reforms and charisma of Leslie Hore-Belisha, the Secretary of State for War. It is unfortunate that no recent biography has been written about Hore-Belisha. Very little credit has been afforded to Hore-Belisha in his role as Secretary of State for War regarding the improved state of defence of Britain between 1937 and 1939.

Of particular interest to this author was Thompson's involvement in the cost accounting experiment in the British Army.³⁸ There is a discussion on what exactly the term cost meant in the cost accounting experiment, and histories relating to the rise of the professional accountancy bodies in Britain from 1880 onwards tend to reflect that costing was not part of the remit of the professional accountant but rather of the engineer and estimator.³⁹ However, the authors argue that though costing did not become part of the curriculum required for the progression of either a chartered or incorporated accountant, this is not to say that they knew nothing of costing

some twenty five years previously, was not in favour of costing or commercial principles of accounting being introduced into government accounting.⁴¹ Thus British government accounting remained a cash based single entry accounting system until the last decade of the 20th century. Even the Parliamentary appropriation account remained no more than a cash statement until very recently.⁴² However, the re-emergence of commercial principles of accounting in government accounting under the Resource Accounting and Budgeting (RAB) protocols, from 1996, has emphasized the pioneering experiment of the earlier 20th century.⁴³ The recording of the life and times of Lieutenant-Colonel Robert Randolph Thompson reveals a cross section of British and Canadian military, social and intellectual history that is important if we are to understand the world we live in today. For if we forget our history, we ignore our future.

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ABOUT THE AUTHOR...

Dr John Black is currently research assistant Department of Management and Security Analysis, Cranfield University, Royal Military College of Science, Shrivenham, Swindon Wiltshire UK. He gained Doctor of Philosophy degree with the Open University two years ago at the age of 53 years. His thesis explores the organization and management of the War Office controlled ordnance factories, 1855 to 1920. Dr Black served in the British Regular Army and Territorial Army (Royal Army Medical Corps) and (Royal Army Pay Corps). His service included duty with British Army of the Rhine, Malaysia, Hong Kong, Aden and Northern Ireland. Dr Black is currently conducting research for a possible book in the field of the military contribution to the evolution of modern British management.

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The Battle of Leuktra

Organizational Revolution in Military Affairs in the Classical World

by Sergeant A. Majoro

INTRODUCTION

If Canada is to continue to make meaningful military contributions to the Western Alliance, we must decide how to allocate our scarce resources for maximum effect. How doctrine is implemented and which view of the Revolution in Military Affairs (RMA) prevails have serious consequences for the Canadian Forces. A technology driven RMA, which depends on acquiring and integrating evermore sophisticated weaponry and equipment into the force structure, will require a large outlay in time and resources for purchase, training and upkeep. Under a technology driven RMA, doctrine will develop to support the use of high tech equipment, although the performance envelope of equipment will limit examination of possibilities¹. Given Canada's historical record on military spending, large financial outlays to raise armies and purchase large quantities of equipment are only permissible in wartime, when time to train and integrate new equipment is at a premium. Under a technology driven RMA, the Canadian Forces will fall ever farther behind the United States and other sophisticated allies as we fail to incorporate advanced technology into our force structure.

An organizational RMA reduces resource constraints by using existing resources in new configurations. Flexible organizations are able to deal with unexpected circumstances and can adopt new technologies and techniques as resources become available, rather than having to start afresh whenever systems become

a result of social changes brought on by the fall of the Mycenaean palace culture and the resulting dark ages in Greece. While pastoral kingdoms ruled the lowlands, small landholders who practiced intensive agriculture gradually settled the uplands and marginal agricultural areas. The farms were limited in size by the amount of labour an individual farmer and his family could provide, and these small plots brought a measure of self-sufficiency and a small surplus of wealth to the farmers. By the dawn of the Classical age, they were probably the most numerous propertied class in Greece.

Large numbers of farmers could muster in any district to defend their land, and each individual farmer had enough personal wealth to buy the protective arms and armour that marked the hoplite. Farmers fighting in massed formations could defeat aristocratic cavalry,² while the full panoply of bronze armour worn by hoplite heavy infantry provided protection against the light arms the poor could bring to battle.³ Only a similarly massed and armed array of farmers could hope to challenge a phalanx in battle. Hoplite warfare sought to formalize the advantageous position farmers had created in Greek society, marginalizing the contributions of the poor (who could not afford the protective panoply), and the aristocracy.⁴ Landholders earned their place as equals in the assembly by taking their place in the phalanx whenever called upon.

The panoply of equipment was similar throughout Greece during this period. Each man carried a 2.5 m thrusting spear and a short sword or dagger. For

The ancient Greeks offer an example of how changes to organization, and novel use of resources can lead to victory without advanced weapons and technology.

obsolete. Keeping a supple organization allows us to continue to make meaningful military contributions to support government policy and Canadian values at home and abroad. The ancient Greeks offer an example of how changes to organization and novel use of resources can lead to victory *without* advanced weapons and technology.

THE HOPLITES IN BATTLE

The equipment and organization of armies during the Classical era reflected both Greek culture and available technology. The hoplite and the phalanx defined Greek warfare throughout the period. Hoplite (from the Greek *hoplon* meaning weapon) warfare was

protection, a full-face bronze helmet covered the head; body protection was a bronze corset (later lightened to leather or quilted fabric), bronze leggings (known as *greaves*), and a massive round shield called the *aspis*.⁵ The bowl shape of the shield reinforced the need for files of hoplites to stay close to each other for mutual protection, and provided a means for members in the back of the file to push the men in front, providing extra impetus to break into the enemy phalanx.⁶

The tight formations and heavy armour associated with hoplite warfare had several disadvantages: the weight of individual armour and weapons was about 30 kg, a considerable weight to carry in the hot Mediterranean sun, and an assembled phalanx could

only move over relatively flat ground, as obstacles would cause breaks in the formation. Thucydides noted the phalanx as a whole had a tendency to edge to the right, as each man sought the protection of the shield of the man to the right of him.⁷ The bronze helmet covered the ears and most of the face, cutting off most of the sight and hearing of the wearer once it was seated on his head. Hoplites in the middle ranks of the phalanx would have no situational awareness once the ranks had closed and battle commenced, being trapped in a crowd of similarly equipped hoplites struggling to advance while blinded by clouds of dust and their own sweat. The lack of situational awareness could cause a phalanx to collapse if the hoplites trapped within began to panic.

All Greek city-states could field armies with similar arms and training. Most Greek city-states adopted auxiliary forces of light infantry and cavalry after exposure

threat a large population of enslaved people posed to the Spartans, but it also gave the Spartan army skills beyond that of the hoplites of any other city-state. In addition to being able to deploy from marching columns to lines, the Spartans could undertake various other manoeuvres on the battlefield in order to deal with different situations. Such manoeuvres included sending the front ranks in a controlled charge to clear enemy light troops from the front of the phalanx, feigned retreats, wheeling to take an enemy phalanx in the flank, and various methods of countermarching and dressing of the ranks.⁸ The evidence suggests that most of these manoeuvres were undertaken before contact, while the phalanx was still in open order, and most hoplites still had their helmets either pushed back on the top of their heads or carried by their personal servants.⁹ Spartan military prowess was an organizational response to the reality of living in an apartheid society.

The Spartans and their allies outnumbered the Thebans, with the armies having the following compositions:

Thebans	
Cavalry	1000
Theban Hoplites	3200
“Sacred Band”	300
Other Boeotian Hoplites	1000
Boeotian Peltasts (light troops)	1000
Total	5500 infantry, 1000 cavalry
Spartans and Allies	
Spartan Cavalry	800
Allied Cavalry	200
Spartan “Similars”	700
Spartans (Lakedaimonians) ¹⁰	1600
Allied Hoplites	6700
Allied Peltasts (light troops)	800
Total	9800 infantry, 1000 cavalry

The lack of situational awareness could cause a phalanx to collapse if the hoplites trapped within began to panic.

to foreign practices during the Persian wars. Communications between armies and their city-states was limited to the speed of runners, or ships for expeditionary forces, and communications within the phalanx were extremely limited, to say the least. There were no technological surprises that one city-state could bring to bear against the others.

The Spartans were an exception to the citizen soldiers of the other city-states. They had the same military technology as the other Greeks, but as Spartan society was based on Helot slaves working the estates, the Spartan peers were able to devote their time to practicing the arts of hoplite warfare. This was mostly in response to the constant

THE BATTLE OF LEUKTRA

One city-state, Thebes, had dared to challenge the Spartans to retain their freedom. The Spartans had subjugated the Thebans after the Peloponnesian wars, until a revolution deposed the pro Spartan aristocrats and liquidated the Spartan garrison in Thebes in 378 B.C. A series of invasions by the Spartans followed, but the Thebans and their Boeotian allies managed to hold the invaders at bay. The Peace of Callias in 371 B.C. was an attempt by Athens and Sparta to end or at least moderate the wars and invasions, but the Thebans rejected the Spartan terms, setting the stage for continued hostilities. The two sides met near the Boeotian city of Leuktra on 6 July 371 B.C.

The Spartan King Kleombrotos had led a previous invasion of Boeotia¹¹ to little effect. He was determined to clear his name by bringing the Thebans to battle, and the renewal of hostilities gave him the opportunity.¹² The Thebans were equally determined to prevent the Spartans from regaining control of their city or the Boeotian territory it depended on. The Theban general Epaminondas appears to have been confident as the moment of confrontation approached, although outnumbered and facing the most feared army in Greece.

The Spartans and allies were drawn up in a typical formation—a phalanx twelve ranks deep across their frontage, with the right of the line taken by the Spartan “Similars” and the allies arrayed on the left. The king himself would have been at

or near the front, with the royal guard of 300 *Hippeis*¹³ between two of the *morai*¹⁴ on the right. This formation would provide an anchor to limit the rightward drift of the phalanx, since the steadiest troops would be holding the right, and gave the king some flexibility to manoeuvre his best troops to outflank the Theban line. A cavalry screen covered the front of the formation to face the Theban cavalry.

Epaminondas departed from traditional practice by forming the Thebans in massed formation “not less than fifty shields deep”¹⁵ on the left of his line, facing the Spartan “Similars.” The remaining Boeotian contingents formed up to the right of the Thebans, possibly four and no more than eight deep, extending their frontage to match that of the Spartans and allies. The three-hundred man “Sacred Band,” a local corps d’elite under the general Pelopidas, formed with the massed Thebans, but their exact position is unknown.¹⁶ The Thebans placed a cavalry screen in front of the formation, possibly to raise a dust screen, and the entire front rank of Epaminondas’ army may have been dressed off to disguise their true disposition from the Spartans.

make changes to their own formation...they started to fold back their right and lead it round so as to wheel and envelop Epaminondas in depth.”¹⁸ What Kleombrotos intended by these manoeuvres is unknown, since they were never completed. Pelopidas, seeing the Spartans in confusion from the cavalry and attempting some form of manoeuvre, led the Sacred Band forward in a charge, fixing the Spartans in place until the Thebans struck the enemy phalanx.¹⁹ The Spartan line managed to hold for a short while, but the sheer mass of the Theban advance collapsed the Spartan phalanx, killing many high-ranking Spartans, including the king, the *polemarch* Deinon and many of the *Hippeis* fighting to save the king. The Spartan right wing fell back, and the allies, who had yet to contact the Boeotians, retreated with the Spartans. The battle ended when the surviving Spartans sent a herald to offer a truce to recover their dead, the conventional signal of surrender.

The Thebans had defeated the feared Spartan army in a massed hoplite battle. Epaminondas had no advanced technology to overcome the manpower advantage of the

chose their time to advance. The Sacred Band also made their charge without direction from Epaminondas. Pelopidas and Epaminondas could not send or receive signals to each other once the phalanx began the advance, so Pelopidas can only have commenced the charge on his own initiative, trusting the Sacred Band to follow his lead, and Epaminondas to arrive in time to exploit the opportunity.

Epaminondas used his forces in a novel way to maximize his strengths and neutralize the Spartan advantages of numbers, training and reputation. He changed the standard formation of hoplites arranged in a phalanx four to eight deep to concentrate the fighting power of the Theban contingent in an irresistible mass. Epaminondas arranged or allowed his separate contingents freedom of action, changing his phalanx from a solid block of spearmen into an articulated formation, allowing the Boeotian army to concentrate its power against the most dangerous part of the enemy line rather than attempt to engage the entire force at once. The freedom of command also allowed the Sacred Band to

Spartan military prowess was an organizational response to the reality of living in an apartheid society.

The battle opened after Epaminondas declared whoever wanted to avoid the fight could leave the battlefield. Some of the Boeotians on the right of the line attempted to leave, triggering an attack by allied light troops from the left of the Spartan line. The two cavalry screens clashed, and the Thebans drove the inferior Spartan cavalry onto their own troops.¹⁷ As the Spartan cavalry and infantry struggled to untangle themselves, the Theban phalanx began its advance, with the other Boeotian contingents trailing, until the line was advancing in oblique order echeloned left.

The Spartans, realizing something unusual was happening, “began to

Spartans. While his cavalry had superior mounts and training, the Theban hoplites who decided the battle were in no way superior, or even equal, to the Spartan “Similars” in terms of experience or skill at arms. The various contingents of the forces had no way of communicating with each other once the battle was joined, and except for some general instructions, it is quite possible no detailed orders in our sense of the word were developed by Epaminondas for his subordinate commanders to follow. Only the Spartan army is known to have advanced in time to music,²⁰ so we can only speculate on how the subordinate Boeotian formations

charge out and engage the Spartans independently, fixing them in place until the Theban contingent could deliver the hammer blow. The battle broke Spartan power, and Epaminondas was able to invade Laconia the next winter with a huge Boeotian army, shattering Spartan society and preventing a Spartan resurgence. .

ORGANIZATIONAL CHANGE VERSUS TECHNICAL CHANGE

Canada’s military history is replete with examples of our troops overcoming obstacles that the better-trained and better-equipped allies were unable to overcome. Very rarely did Canadian soldiers have the

technological superiority to overwhelm their enemies. Enemy forces with superior mobility (Boer commandos), deep defenses manned by veteran troops (World War One German troops on the Western Front), veteran troops with superior equipment (Second World War German troops) or overwhelming numbers (Chinese "volunteers" during the Korean War) were quickly sized up and overcome through combinations of individual daring, local initiatives and quick adaptations to the new situation. Canadian citizen-soldiers of the past did not have the rigid mind-sets of their "professional" British counterparts and were more willing to experiment, adapt and share their experiences with others. Compare the rigid command and control

though the Germans had virtually no tanks and the infantry were "judged by peacetime standards, little better than a disordered militia"²²—using innovative organizations and lowered decision-making thresholds so that local commanders could exploit success to support the overall goal.²³

The modern Canadian Forces are evolving in a very different direction. Decades of neglect and under funding have created an environment where resource management is paramount, leading to centralization of power and the raising of decision-making thresholds. Staffs expend great effort to wring the maximum benefit from every dollar. While this is a laudable goal, the result is often micro-management and the smothering of initiative by subordinate units and

soldiers to directly access resources when needed can allow small, self-contained units to engage opponents in a timely manner and generate results out of all proportion to their numbers. In the modern security environment with its widely expanded range of threats, the soldier on the ground needs to have specialized resources on call, from air support for conventional operations to police officers to assist in aid-to-civil-power operations.²⁷ Organizational models exist which promise the ability to rapidly deliver resources to the end user. In the civilian world, Wal-Mart uses a sophisticated information system to manage logistics, correlating data from point of sale terminals, store inventories and customer habits to provide the proper goods to their stores at high speed and low cost. The US Navy's "network centric" concept

Epaminondas used his forces in a novel way to maximize his strengths and neutralize the Spartan advantages of numbers, training and reputation.

measures imposed by General Haig and his staff for the battle of the Somme²¹ with the more flexible Canadian planning for the battle of Vimy Ridge one year later. Although the two armies used almost identical formations, training and equipment, the results could not be more different. The British army lost 60,000 men, including 20,000 dead on the first day of the Somme, with little to show for their sacrifice; the Canadian Corps overran the bulk of Vimy ridge, the strongest position on the Western Front, in a single day.

Later success by the British during the First World War was often a result of throwing resources into technological solutions, ranging from poison gas to tanks. The battle of Cambrai succeeded using massed tanks to surprise and overrun the defenders, but the Germans overcame their initial shock and succeeded in mounting successful anti-tank actions with field guns by the end of that very day. The German offensive of 1918 almost succeeded in breaking the British line—even

formations. Attempts to achieve close control also consume a great deal of time, energy and resources in themselves, defeating the very goals they are supposed to achieve.²⁴

To use the resources we have to their best effect, we need to adopt streamlined organizations very different from the highly centralized structures we are building today. The American experience in Afghanistan during the 2003 campaign is illuminating. A cadre of about two hundred and fifty special forces operators had direct lines of communications to aircraft, allowing them to call and direct strikes within minutes of detecting targets.²⁵ The result was to "...Napsteriz [e] the battle by cutting out the middlemen (much of the military's command and control) and working directly with the real players (the pilots and their immediate support teams)...By the end of the campaign, that lethal collaboration was so smooth that Special Forces could vector a bomber within minutes of their call, as opposed to the several hours it took in Kosovo and in the Gulf War."²⁶ Clearly, there are lessons to learn here. Creating organizations that allow

of warfare, which ties sensors, weapons and commanders together regardless of the platforms they inhabit, is one military model to investigate.²⁸ Replacing or supplementing command hierarchies with a functional matrix organization is another possible means of achieving the fast and flexible responses needed in today's security environment.

CONCLUSION

The organizational component of doctrine is the critical element for utilizing resources in the most effective manner. Reliance on new military technology to achieve mission goals is expensive and fraught with danger. The weaponry may not work as advertised, be unsuitable for particular missions (e.g., high performance fighters attempting close air support) or quickly defeated by countermeasures such as German artillerymen using field guns against tanks on the first day of the battle of Cambrai. Novel organization of existing resources can overcome limitations of platforms and technology and provide quick responses to possible enemy countermeasures.

In our history, the Canadian Forces have been a low priority in government planning and spending until the actual outbreak of hostilities. The means to purchase new technology, train in its use and incorporate it has been lacking, and when the funding taps do open, the time to incorporate new equipment and technology is at a premium. Without the means to incorporate high tech equipment, the Canadian Forces can only be successful if organizational change emphasizing flexibility, and speed of action at all levels is the key component of change. As the ancient Greek general Epaminondas demonstrated,

armies that organize and use their existing resources in novel and flexible ways can increase their effectiveness to overcome superior enemy forces and achieve victory.



ABOUT THE AUTHOR...

Sergeant Arthur Majoor holds a Business Finance Diploma from Fanshawe College and is currently enrolled in the Microsoft Certified Systems Engineer course. He joined the Canadian Forces in 1981 and served in the regular army until 1986, before transferring to the Reserve Force. His operational service includes a tour in Cyprus and disaster assistance during the Ice Storm in 1998. Sergeant Majoor is currently employed as a section commander as part of the CRC (Composite Reserve Company) for Operation PALLADIUM Roto 13 and is a regular contributor to this journal.

ENDNOTES

1. For example, air forces are highly constrained by the performance envelopes of their platforms. Close air support is no longer possible for most armed forces, since air forces preferentially purchase high performance fighters rather than armoured "tank busters" like the A-10. Air doctrine therefore emphasizes air superiority and the "interdiction" roles high performance fighters can perform.
2. Massed infantry formations have always been able to resist cavalry, for example, Harold's "shield wall" holding off William the Conqueror's cavalry in 1066 (until they were induced to break formation by a feigned retreat), the Swiss pike phalanx of the Middle Ages or British infantry "squares" of the Napoleonic wars.
3. Victor Davis Hanson, *The Other Greeks* (N.p.: Free Press, 1995). Hansen develops this argument from page 231 to 235.
4. Missile armed cavalry could make little impression on a formed body of men, and shock cavalry tactics would come a thousand years in the future, when stirrups were adopted by European cavalry.
5. J.F. Lazenby, *The Spartan Army* (N.p.: Bolchazy-Carducci Publishers, 1985), p. 30.
6. Victor Davis Hanson, *The Western Way of War* (N.p.: Alfred A Knopf, 1989). Chapter 15, "The Push and Collapse," discusses this in some detail.
7. Thucydides, *History of the Peloponnesian War*, 5.71.1, translation by Rex Warner (N.p.: Penguin Classics, 1972), p. 392.
8. J.F. Lazenby, *The Spartan Army* (N.p.: Bolchazy-Carducci Publishers, 1985), p. 4. Detailed descriptions of specific manoeuvres can be found throughout this work.
9. J.F. Lazenby, *The Spartan Army*. Spartan "drill" was based on the manoeuvring of files, rather than ranks as is our modern practice. The phalanx would be in the "open order" with alternating files one behind the other until the last moment, when personal servants would finish arming their masters and depart. Skirmishers could retreat through the openings, then the rear files would move forward and fall in beside the front files, filling the gaps and presenting the solid front of shields and spears to the enemy. See also Victor Davis Hanson, *The Western Way of War* as well as John Warry, *Warfare in the Classical World* (N.p.: Salamander Books, 1980), p. 34 for a diagram. Most Greeks of the landholding class could afford one or more slaves to assist with farm work and act as batman during wartime. See Victor Davis Hanson, *The Other Greeks*, p. 69.
10. Many subordinate classes of Spartans existed, from the "Similars," who had full rights, to *Helots*, who had none. Subordinate classes of Spartans (*periorkoi* or the "dwellers around") who had fallen out of favour for various reasons still had obligations to the state, especially their military obligations.
11. Boeotia is the plain where the city of Thebes is situated. The Thebans proper are the inhabitants of the polis, while the Boeotians are the farmers and villagers from the surrounding territory.
12. Xenophon, *Hellenica*, VI, 4.5, *History of My Times*, translated by Rex Warner (N.p.: Penguin Classics, 1987), p. 325.
13. J.F. Lazenby, *The Spartan Army*, p. 156. A discussion of the origins and use of the *Hippeis* occurs pp. 9-13.
14. J.F. Lazenby, *The Spartan Army*, pp. 5-10. A *Mora* (plural *mora*) at full strength was a "battalion" of 1280 men, subdivided into 2 *lochoi* of 640 men, 8 *pentekostys* (companies) of 160 men, and 32 *enomotarchai* (platoons) of 40 men. The *Polemarch* (battalion commander) and other senior leaders would be Spartan "Similars," with the remainder drawn from the inferior Spartan classes.
15. Xenophon, *Hellenica*, VI, 4.12, *History of My Times*, translated by Rex Warner, p. 327.
16. Various commentators have placed the Sacred Band in front of, behind and to the side of the 50 deep Theban phalanx, as well as incorporating it as part of the giant formation. In order to see the disordered Spartans and have freedom of action to make their climactic charge at the right time, they must have been detached from the main formation, either at the front of the Theban phalanx, or formed up on the left of the line.
17. Xenophon, *Hellenica*, VI, 4.13, *History of My Times*, translated by Rex Warner, p. 327. Xenophon is very dismissive of Spartan cavalry.
18. According to Plutarch, J.F. Lazenby, *The Spartan Army*, p. 158.
19. Again, it is unclear just where the Sacred Band struck the Spartans, but a reasonable assumption is they wheeled out to their left and then wheeled right to catch the enemy formation in the flank.
20. "... It was a sight equally terrifying when they marched in step / with the rhythm of the flute, without any gap in their line of battle, / and with no confusion in their souls, but calmly and cheerfully moving / with the strains of their hymn to their deadly fight." (Plutarch, Lycurgus 22.2-3, available at <http://www.e-classics.com/lycurgus.htm>).
21. Martin Van Creveld, *Command in War* (N.p.: Harvard University Press, 1985), pp. 155-168. Since the planning was based on the artillery program, lines of advance were selected to conform to the artillery observer's limits of visibility. In many areas, the second line of defences was not included in the bombardment, while in areas where objectives were quickly gained, such as the 18th and 30th divisions near Montauban Abbey, permission to exploit beyond the objective were refused since the day's artillery schedule was complete.
22. Martin Van Creveld, *Command in War*, p. 173.
23. Martin Van Creveld, *Command in War*, p. 168.
24. This example is from a single brigade-level computer assisted exercise in Kingston. While preparing for Exercise TRILLIUM SCEPTRE 2003 (25-26 Jan 2003), the 31 Brigade G6 branch was involved in collating and distributing the exercise instruction. The size and complexity of the exercise instruction (387 Mb of data.) consumed large amounts of resources to view over a network connection, through burning large quantities of CDs for distribution or potentially printing a 1000 page binder of information. (Theoretically, if the instructions were all word documents with an average of 15 Kb/page, this would equal a 20,000-page word document). The amount of time required for the end user to read and process this amount of information would also preclude timely action.
25. Michael Kelly, "The Air Power Revolution," *Atlantic Monthly* April 2002, available at <http://www.theatlantic.com/issues/2002/04/kelly.htm>, viewed May 2003. Also Ned Desmond, "Broadband's New Killer App," *Business 2.0*, October 2002, available at <http://www.business2.com/articles/mag/0,1640,43546,00.html>, viewed May 2003.
26. Ned Desmond, "Broadband's New Killer App."
27. This range of resources needs to be available concurrently in a "three-block war" scenario.
28. Vice-Admiral Arthur K. Cebrowski (USN) and John J. Garstka, "Network Centric Warfare: Its Origin and Future," *U.S. Naval Institute Proceedings*, January 1998, available at <http://www.usni.org/Proceedings/Articles98/PROcebrowski.htm>, viewed May 2003.

Understanding Schlieffen

by V. J. Curtis

INTRODUCTION

Field Marshal Count Alfred von Schlieffen stands third, after Clausewitz and Moltke the Elder, on the pantheon of great German general staff officers of the 19th and 20th centuries. Schlieffen was born in Berlin in February 1833 the son of an army officer. At twenty, he enlisted as a one-year volunteer but was appointed "officer cadet" before the year expired. He was appointed to the Great General Staff in 1863 and served as a general staff officer in the Austro-Prussian War of 1866. He saw action at Munchengratz, Gitschen and Koniggratz. He was again a general staff officer in the Franco-Prussian War of 1870 and saw action at Noisseville, at the sieges of Toul and Soissons, and in the winter campaign on the Loire. In 1891, after thirty-eight years' service, he was appointed Chief of the Great General Staff. He retired on 1 January 1906 after nearly fifty-three years of service and died on 4 January 1913, seven weeks shy of his eightieth birthday. Schlieffen's contributions to military theory did not begin until after he was appointed Chief of the General Staff, and

his operational concepts possess a strong geometrical element that makes them clear and striking.

Until recently, most of Schlieffen's writings were inaccessible to English readers, but Robert T. Foley has recently published a translation of the most important of Schlieffen's works: his assessments of war games, memoranda leading up to the "Schlieffen Plan," theoretical essays, and the introduction and conclusion to the seminal "Cannae Studies."¹ Foley's work and others enables one draw a picture of Schlieffen's operational ideas, which dominated German military thinking until 1945. It was from these ideas that the operational method of blitzkrieg grew.

Schlieffen's influence increased after his retirement and death. The plan for the invasion of France of 1914 was called the "Schlieffen Plan," although he did not actually draft the operations order. The German general staff officers of the interwar and World War II era, particularly General Hans von Seeckt, acknowledged an intellectual

Field Marshal Count Alfred von Schlieffen stands third, after Clausewitz and Moltke the Elder, on the pantheon of great German general staff officers of the 19th and 20th centuries.

his contributions did not cease until 1912, well after his retirement, when he was seventy-nine years old. His works, therefore, represent the mature reflections of a brilliant military officer whose experience was shaped by two wars, long service on the general staff and immersion in the culture of Clausewitz and Moltke.

Like his predecessor Moltke, Schlieffen never published a comprehensive work on military theory. Unlike Clausewitz and Jomini, who each in their own way tried to write a rigorous, comprehensive analysis of war, Schlieffen's attention was entirely devoted to the serious, practical and imminent problems of Germany's tactical-strategic situation. As Chief of the General Staff, it was Schlieffen's responsibility to prepare the general staff to fight a war that ultimately was to become World War I, and Schlieffen drilled his charges in the manner he thought the war needed to be fought. Schlieffen may well have believed that if he taught abstract principles of war in general, the general staff might become useless, theorizing dandies who were dangerous to the future of Germany. He was not inclined until his retirement to write upon the broader aspects of war, and even in retirement, he devoted his more theoretical writings to the practical problems faced by Germany. Nevertheless, it is still possible to see the principles at work in Schlieffen's operational vision. And Schlieffen had an operational vision because, like Jomini,

debt to Schlieffen, and the German offensives of the 1939-42 period bear the unmistakable stamp of Schlieffen's operational ideas.² Thus Schlieffen, if he is not the father of manoeuvre warfare, is one of its grandfathers. An understanding of Schlieffen's operational ideas is useful to understanding not only manoeuvre warfare but warfare itself. Although Schlieffen's ideas were intended to be applied to the operational level of war, many of them are applicable to the tactical level and some as low as the section level.

THE IDEA OF ANNIHILATION

Schlieffen's operational ideas were dominated by the strategic situation in which Germany found itself at the beginning of his term as Chief of the General Staff. In 1892 France and Russia signed a treaty of entente in which they pledged aid to each other in case either was attacked by Germany. Previous to this, Prussia, later the German Empire, was able to count on having to deal with only one enemy at a time and possessed an army large enough to win. Thus Denmark in 1864, Austria in 1866 and France in 1870 all fell to the success of Prussian arms, and through these victories, the Empire of Germany, under the leadership of Prussia, was born. But Schlieffen was confronted for the first time with the German nightmare: a war on two fronts against enemies numerous enough to defeat Germany.

Schlieffen's solution to the problem was deceptively simple. He had to crush one opponent speedily so that he could then throw his weight completely against the other. The rest of Schlieffen's career was spent inculcating the operational ideas required to make this strategy work.

Schlieffen did use the word "crush." The term he used to describe the desired end state was annihilation and

◆ This idea of annihilation, which emanates from all the battles of Frederick the Great, which permeates all of Napoleon's operations, and which served as the basis for all of Field Marshal von Moltke's unparalleled successes, is seemingly being gradually lost. In all the works that have been handed in, I have found the intention "I want to annihilate the enemy" expressed only

it can be thought of as a collection of individual human beings. When we say that an army marches to and fro, invades countries and fights battles, we speak of it as one thing. To the extent that it possesses the property of being able to function as one thing, a unified whole, toward the attainment of a single object, an army is said to have the property of cohesiveness. It is not always necessary for an army to be

Unlike Clausewitz and Jomini, ... Schlieffen's attention was entirely devoted to the serious, practical and imminent problems of Germany's tactical-strategic situation.

the term annihilate is employed repeatedly throughout his works. In critiquing the war studies of junior staff officers he wrote:

- ◆ Under these favourable circumstances, the Germans must set as a goal the annihilation of the enemy.³
- ◆ They disregard the nucleus of the question, namely just how the 1st Army is to be annihilated.⁴
- ◆ One should always attack the enemy's flanks and rear with great strength...this is the only way not only to resist our enemy, but to annihilate him.⁵
- ◆ It is not enough simply to push the Danish corps back, it must be worn down as soon as possible and annihilated.⁶
- ◆ The goal has to be to give the French the rapid decision they appear to be seeking and to inflict upon them an annihilating defeat.⁷

twice.... You now know that not much is to be accomplished with energetic advances, flanking positions and positions of readiness."

The idea of annihilation did not begin with Schlieffen. In their works, both Moltke and Clausewitz also stress that annihilation is the object of military operations. The term annihilate originated with Clausewitz, who also often used the more generic term destroy to describe the object of war. Clausewitz served on the Russian general staff at the time of the Napoleonic invasion, and he saw Napoleon's army shrink from about 350,000 men to less than 2,000 by December 1812 without having lost a battle.¹⁰ From the experience of seeing the Russian landscape littered with the frozen corpses of tens of thousands of French and Russian dead, Clausewitz came to understand the meaning of annihilate and destroy. Schlieffen's concept of an annihilating victory came instead from the battle of Cannae that took place between the Roman and Carthaginian armies in August 216 BC.

working toward the attainment of a single object for that army to be cohesive, any more than it is necessary for the opera singer Pavarotti to be singing continuously to be thought of as being musical. The property of cohesiveness, the quality or attribute of being able to act as a unified whole, is possessed in greater or lesser degrees just as musical talent is possessed in greater or lesser degrees. But because an army is a composite entity, it must possess cohesiveness or unity to some degree or it ceases to be a real army, and lacking cohesion altogether, what was a real army becomes merely individual human beings.

An army ceases to be, or is destroyed, if its cohesiveness vanishes. It is not easy to say when a composite entity like an army is destroyed. If one were to disassemble a car piece by piece, at what point would one say that a real car ceased to exist: after the tires were removed, the hood, the engine? Eventually the car would be completely disassembled, and at some

Though similar, destroy and annihilate are not completely interchangeable concepts.

- ◆ Such a two-front war is not to be waged by the pushing back of one or the other enemy, but rather by annihilating, as soon as possible, one and then the other enemy. Military history has shown us the means of achieving such an annihilation.⁸

Though similar, destroy and annihilate are not completely interchangeable concepts. To fully understand the difference one needs to endure a little theory. An army is a composite entity. It can be thought of as one thing, a thing possessing a unity of its own, or

point in the process, we would have to say the real car ceased to exist and only the parts remained. We also say that a tank is destroyed by enemy fire even though it remains largely assembled: the object that was a tank no longer functions as a tank and cannot easily be made to function as a

tank again. Despite the difficulty of saying exactly when, we allow that it is possible for an army to be destroyed when it is no longer able to function as a real army.

The term annihilate draws attention to the individual human beings that compose an army. We say that an army is annihilated when a large proportion of the individuals that compose it are killed in battle, many more captured, and the fragment that is left after the battle no longer functions like a real army. At Cannae, a Roman army of about 79,000 men was slaughtered by the victorious Carthaginians. Schlieffen estimates that 42,000 Roman corpses lay on the battlefield, and 3,000 men were taken prisoner after the Carthaginians tired of the slaughter.¹¹ Thousands more were captured in the Romans camps and towns around the battlefield. In contrast, the Carthaginians lost an estimated 6,000 men. For Schlieffen,

the soul of the survivors and renders them less likely to renew the struggle quickly. After Cannae, Fabius was elected Roman consul, and he implemented the famous Fabian Strategy, which had the Romans avoid battle with Hannibal for years. Frederick the Great was able to escape a disaster at the hands of the Russians in the Seven Years War because of the memory of an annihilating defeat he inflicted on them earlier in the war made them hesitant to press their advantage over him.¹² After the annihilating victories of 1870 by Prussia, the French only dreamed of revenge for forty-three years, and in fact never attacked Germany until France was attacked again in 1914. On the other hand, the British army that was destroyed on the beaches of Dunkirk was quickly reformed after the rescue of Operation DYNAMO, and Britain carried on the struggle to a victorious conclusion. No German army was disastrously defeated or

without doubt. There are many more battles won decisively than there are decisive battles.

Schlieffen sought an early decisive battle won decisively. It is fashionable in some circles to point out that all the operational effectiveness and all the efforts at decisiveness didn't stop the ultimate German defeat in two world wars. To answer this argument as perhaps Schlieffen might, we must draw upon Clausewitz, who was the first to point out that war is merely an instrument of politics and must be constantly guided by it. The oft quoted maxim of war that the commander will "impose his will upon the enemy" is not a military maxim at all but a political one. The military commander properly has no will except that given to him by his political masters. If it is the will of the government that said province of the enemy is to be annexed, it is the job of the military commander to seize it. It

There are many more battles won decisively than there are decisive battles.

the battle of Cannae is the model of an annihilating victory. The Roman army was not just destroyed, a greater part of the individual human beings who made up the army were killed. Schlieffen allows that modern conditions have substituted capitulation for slaughter, but when he writes about annihilating the enemy, he has in mind a slaughter in the manner of Cannae.

ANNIHILATION, DECISIVENESS AND PEACE

The reason for the emphasis on annihilation is that it makes the victory more decisive. An army may be destroyed in battle, but if most of its individual members are able to escape and reach friendly territory, they can be formed into another army. This would be impossible if the individual human beings lay dead or captured. Dead men can't fight. Dead men can't renew the contest. Besides the dead being unable to renew the contest, the prospect of the slaughter of one's countrymen thrusts iron into

destroyed in World War I, and Germany started another war twenty years later. The American Civil War ended after four years of bloody slaughter and the South lay in ruins. If the war had been ended quickly by a swift almost bloodless rapier thrust at Richmond, who can say that the South, practically untouched by war, would have accepted supinely the end of slavery? Schlieffen planned to inflict an annihilating defeat on either the French or the Russians so that the one would not be able or inclined to renew the struggle in time to aid the other in the subsequent battle with Germany.

This raises the question of decisiveness and what a decisive battle means. This is an operational question. A decisive battle has the quality that the outcome of the battle removes doubt about the outcome of the campaign. To win a battle decisively means that there is no doubt about who won the battle. Decisiveness, then, is the quality of removing doubt, and in a military context, decisiveness means winning

is the responsibility of the political power to bring about peace on the basis of the new facts on the ground. There is no greater or more complete an accomplishment a military commander can attain than to lay the enemy army at the feet of his political masters, for without an army, there is then no military means by which the enemy can resist the will of the general's political masters.

But just as making war is a political act, so too is making peace. It is up to the political power to capitalize on the victories their armies produce. The most the military can do is to bring about the conditions in which the enemy side is defenceless against the will of the military's political masters. Thus the maximum that a military commander can achieve is the annihilation of the enemy army, for having lost an army to annihilation, the enemy has permanently lost the ability to resist with military means, *and therefore the military commander ought to make this his aim.* The identification of a prescriptive ought

with the highest military aim is a controlling insight into Schlieffen's thinking.

Indeed, it is hard to think of a good reason not to aim at the highest end. It is not the job of the soldier to make peace. His job is to create the most advantageous conditions for his political masters at the peace table. The most advantageous condition is when the political power can dictate the terms of peace, and this condition occurs when the enemy has no military means of resisting their will. For this reason, annihilation is the end at which the commander ought to aim.

Carthaginian formation, aiming for a breakthrough. According to plan, the Carthaginian centre retired before the onslaught, and the wings swung forward to engage the flanks of the Roman formation. After driving off the Roman cavalry, the Carthaginian cavalry completed the envelopment by attacking the rear of the Roman infantry formation. Although the Carthaginian army was smaller, the superior numbers of the Romans were trapped in the centre of their formation and were unable to engage the Carthaginians until the troops around them were slaughtered. Schlieffen taught that the Cannae

sent immediately against the flanks or the rear. This is what Moltke called "concentration of the battlefield."¹⁴

♦ Napoleon also began his battles of annihilation with envelopments, which were not, however, carried out like Frederick's with inferior numbers in the vicinity of the battlefield. Instead, Napoleon manoeuvred for days and weeks in a wide arc to bring his superior numbers to the enemy's rear.... He allowed the weaker enemy to attack him in order to deliver the annihilating counter attack after

Unless the political power directs otherwise, ... Schlieffen would argue that the commander ought to aim at annihilating the enemy.

Permanent peace requires justice, magnanimity and good will on the part of both sides, but especially on the side of the victorious political power. Decisive victory is neither necessary nor sufficient for the attainment of real peace, but in the absence of justice and good will, the aftermath of decisive victory has had to substitute for real peace throughout history. Unless the political power directs otherwise, and this would be for political considerations that override operational ones, Schlieffen would argue that the commander ought to aim at annihilating the enemy.

THE CANNAE MODEL

The annihilation of the enemy army is the ultimate end of military operations. An enemy army will not allow itself to be annihilated if it possesses any means of escape. An army that is encircled possesses no means of escape. Thus the encirclement of the enemy is the means by which the annihilation of the enemy is achieved in a single battle. For Schlieffen, the archetype of a battle of annihilation is the battle of Cannae.

At Cannae, Hannibal opposed the Roman army with a long thin line, weak in the centre and strong on the wings. On seeing this, the Romans deepened their own formation and attacked the centre of the

model was applied in their battles by the great generals of history, and that the model continued to be applicable to modern times:

♦ Capitulations have taken the place of slaughters. However, the fundamental conditions of battle have remained unchanged. A battle of annihilation can be carried out today according to the same plan devised by Hannibal in long forgotten times. The enemy front is not the goal of the principal attack. The mass of the troops and the reserves should not be concentrated against the enemy front; the essential is that the flanks be crushed. The wings should not be sought at the advanced points of the front but rather along the entire depth and extension of the enemy formation. The annihilation is completed through an attack against the enemy's rear.¹⁵

♦ According to the principle of Cannae, a broad battle line advances against a narrower, but usually deeper, battle line. The overlapping wings envelop the enemy flanks and the advancing cavalry attacks the enemy rear. If the wings are for some reason separated from the centre, it is not necessary to bring them together again in order to advance together in the envelopment. They can be

the exhaustion of his foe.... He made Hasdrubal's decisive attack on the enemy's rear.¹⁵

♦ Frederick the Great was unsuccessful in some of his battles of annihilation because his forces were too limited. None the less, he attempted it the most often.¹⁶

♦ A complete battle of Cannae is seldom found in the history of war. For its achievement, there must be a Hannibal on one side and a Terentius Varro on the other, both working together in their own way for the attainment of the great goal. A Hannibal must possess, if not superiority in numbers, then at least the knowledge of how to achieve this.... A powerful army...concentrated solely against the main enemy... bringing all guns and rifles into action... directing the main attack against the flanks or the rear.... Replacing the absent Hasdrubal by a natural obstacle or the border of a neutral state... finally subordinates are needed, who are disciplined, well trained in their craft, and who possess an understanding of the intentions of the [commander].¹⁷

Schlieffen constantly inculcated the idea of enveloping the enemy as the means for annihilating him in the manner of Cannae:

- ◆ To bring about a decisive and annihilating victory requires an attack against two or three sides of the enemy, i.e., against the front and against one or both flanks.... The forces necessary to carry out a powerful flank attack are only to be gained by making the forces employed against the enemy's front as weak as possible. However weak these are made, they must not be so weak that they only want to remain under cover and merely "occupy" or "hold fast" the enemy with fire delivered from a distance. Under all circumstances, the front must "attack" and must "advance" forward.¹⁸
- ◆ A condition of success is certainly that the enemy shorten his front by deploying in a deep formation with masses of reserves, thus deepening his flanks and *increasing the number of combatants forced to remain inactive.*¹⁹
- ◆ In order to annihilate a separated portion of an enemy army with a unified army, it is necessary for the remainder of the army to be so far away that support from it cannot be expected.²⁰
- ◆ It is a sign of trouble when both, or at least one of the commanders, allow for no possibility of enveloping the enemy.²¹
- ◆ It is very difficult to carry out an envelopment from a parallel front. As a rule, in order to carry out such an envelopment, a long sideward movement would have to be executed to win the enemy flank.²²
- ◆ In an envelopment, the columns should not be directed to converge on *one* point, but instead must advance in parallel until the enemy is found and then wheel in according to need.
- ◆ It is more important to execute a powerful envelopment with sufficient forces and to exert all possible strength to close every route through which the enemy might escape.²³
- ◆ Through our considerable numerical superiority in the battles of 1870 and, in part, in those of 1871, we were almost always in the position of being able to keep the French front completely occupied and, at the same time, to envelop one or both of their wings, to threaten the French lines of retreat, and thus to achieve a really decisive result.²⁴
- ◆ Therefore we must operate with our smaller army in such a way that we not only attack the enemy's wings with as much strength as possible, but we must also seriously endanger his lines of retreat, which will become more sensitive due to the great size of the enemy army. Only in this way can we win a truly decisive result that will bring the campaign quickly to an end, and in a war on two fronts such a rapid campaign is absolutely necessary for us.²⁵
- ◆ Since a breakthrough is ruled out, the only possibility a weaker army has of defeating a stronger and therefore less mobile army is to set upon the stronger enemy's wing while keeping his front engaged. There is no rule as to how this is to be accomplished; the method is dependent upon the skill of the commander and the circumstances of the action.²⁶
- ◆ The idea of threatening the enemy's lines of retreat is completely correct, but one does not do this with four army corps, but rather with everything one has.²⁷
- ◆ In general, however, we will always turn again to the use of envelopment—not an enveloping manoeuvre, however, with only one division or merely a pushing back of the enemy's wing but rather a well-prepared, far-reaching envelopment with great strength. We must build a Napoleonic *bataillon carre* of 100,000 men or more and advance with this formation in such a way as to threaten not just the enemy's flank but also his rear.²⁸
- Schlieffen also inculcated the tactical methods by which envelopment was accomplished and made effective:
- ◆ *The enemy front must always be attacked in order to permit and make effective an envelopment.*²⁹
- ◆ It was intended that the enemy be held along his entire front and an envelopment of his right wing be attempted. The holding action could not simply consist of waiting, however, it had to be an attack along the entire line with all strength. Only an attack would have shown where the weaknesses of the enemy lay and only then could they be exploited and the enemy prevented from turning to face the envelopment.³⁰
- ◆ However, it would be a great mistake if one were to rely totally on an enveloping manoeuvre. The envelopment must be combined with a powerful frontal attack even if the required number of men are unavailable. Further, once an envelopment has been successful, it must be combined with an unbroken pursuit of the enemy.³¹
- ◆ All great captains have done fundamentally the same thing. [Leuthen 1757, Jena 1806 and Sedan 1870] appear very different, but fundamentally all three manoeuvres rely on the same idea: the enemy was to be forced onto another front, was to be beaten and was to be forced back in the most unfavourable direction.³²
- ◆ For this battle, it is of the utmost importance that the entire force, without exception, attack, and not, as some gentlemen have done, leave a portion on the defensive or in waiting. This is the only way to hold the enemy and prevent him from manoeuvring.³³
- ◆ Many gentlemen did not content themselves with the most immediate task of attacking the enemy where he happens to be and where he happens to be found... They came to one of the worst errors that can be committed in operations: awaiting the effect of the envelopment before advancing against the

front. In strategy and in tactics, the same rule applies: he who wants to envelop, must attack the front firmly in order to prevent the enemy there from making any movement, thus enabling the enveloping wing to be effective.³⁴

- ◆ Instead of accumulating reserves behind the front, which must remain inactive and will be missed from the decisive point, it is better to attend to a plentiful supply of ammunition. Cartridges brought by trucks form the best and most reliable reserves. All the troops formerly retained to bring about the decision can now from the outset be led forward to attack the flank. The stronger the forces that can be brought up with that objective, the more decisive the attack will be.³⁵

strength, or at least the greatest part of it, against the enemy's flanks or rear in order to force him to fight with a reversed front or to push him in an unfavourable direction. This can occur if the attack leads to success on two sides. At the very least, it can lead to the encirclement of the enemy army.³⁶

- ◆ ...the Germans would force the French to fight a battle west of the city with a *turned front*.³⁷
- ◆ The goal has to be to give the French the rapid decision they appear to be seeking and to inflict upon them an annihilating defeat. Therefore, not all troops should be placed in the Lauter position; instead, as large a number as possible must be employed against the enemy's flanks and rear.³⁸

It is not that Schlieffen disparaged breakthroughs, but a breakthrough is a means not an end in itself. The end is a decisive battle of annihilation, and a breakthrough must be a means for bringing that condition about by enabling the envelopment of the enemy. If all a breakthrough achieves is a collapse of the enemy front but permits that front to reform, that breakthrough failed in its purpose. Envelopment of the enemy requires the reaching for the enemy flanks and rear; a breakthrough is useful insofar as it creates flanks where none previously existed and enables strong forces to reach the enemy's rear.

Jomini and Schlieffen stress remarkably similar things about the tactical efficacy of envelopment and the means of bringing envelopment about. Jomini recommended that the proper flank of the enemy's to turn in

The end is a decisive battle of annihilation, and a breakthrough must be a means for bringing that condition about...

- ◆ If possible, the German army's victory will be obtained through an envelopment with the right wing. Therefore, this will be made as strong as possible.³⁹

If the enemy army is too large to be completely encircled, it can be still be subjected to a rapid and surprising envelopment and forced away from its lines of communication and against a barrier:

- ◆ If the Germans were resolved to assemble all their strength before going on to the offensive, then their plan of operation was set: they had to march against the enemy's rearward lines of communication in the hope of forcing him, in the case of a victory, against the Vistula.⁴⁰

- ◆ Such a two-front war is not to be waged by the pushing back of one or the other enemy, but rather by annihilating, as soon as possible, one and then the other enemy. Military history has shown us the means of achieving such an annihilation. This method consists of throwing all of one's

- ◆ There is no obvious reason why the aforesaid operation ... should not succeed in reality as long as the envelopment is carried out with the necessary strength and to the greatest possible depth. For such an encirclement of the enemy's army, certainly, an obstacle like the Masurian Lakes is imperative.⁴¹

- ◆ Such a plan, to allow the enemy to attack a force in a good defensive position and then to fall upon the flank and rear of the exhausted enemy and finish him off, appears very tempting. One can hardly think of a better way of annihilating an enemy. However, the enemy rarely enters into such a well-laid trap.⁴²

It is said the Schlieffen disparaged so-called breakthrough battles. He did not:

- ◆ Long fronts of modern armies offer the possibility that gaps can be found through which an attacker can break.⁴³
- ◆ It also shows that a breakthrough can result in a meaningful success.⁴⁴

battle is the one closest to his lines of communication.⁴⁵ Schlieffen strove to manoeuvre around the flank closest to the enemy's lines of communication to envelop and, if possible, push away the enemy force from those lines of communication. Jomini recommended using a third of one's force to pin the enemy and the remaining two thirds against the decisive point. Schlieffen required that a weak force, but one strong enough to *attack* the enemy, be employed against the enemy front, and the remaining force, including all the reserves, be directed against the rear of the enemy. It was necessary that the weak force attacking the enemy hold the enemy in place to enable the enveloping manoeuvre to succeed. Jomini wrote than an attack on the enemy's front combined with a turning movement is more successful than either movement attempted separately. Jomini stressed the importance of the simultaneous coming into action of different parts of an army intended to execute a manoeuvre, and in a true Cannae battle, the encircled enemy is finally engaged from all sides at once. "Hold them by the nose while you kick them in the pants" is a famous saying of General George S. Patton.⁴⁶

In so-called hammer and anvil battles, or battles in which the enemy is supposed to be driven into the kill zone of another force, it is essential for complete success that the enemy in the end be engaged from all sides at once.⁴⁷ Geometrically, these kinds of battles are forms of envelopment, and complete success means that the enemy is annihilated. These kinds of battles are governed by the same fundamentals that underlie the operational concepts of Jomini and Schlieffen, and this is why the works of Jomini and Schlieffen are applicable and deserving of study even today.

Where Jomini and Schlieffen would appear to differ is that Jomini recommends against too wide a turning movement because a separation of the attacking force enables the enemy to defeat the attacking force piecemeal. (The army's cohesion breaks down, and the two fractions are not able to cooperate with each other against

gambler's throw." Schlieffen was fully aware of the principle of piecemeal defeat and was in a way counting on it to deceive and outmanoeuvre his opponent:

A smaller army can also defeat a larger enemy force. The smaller force will have great difficulty succeeding if it directly attacks its strongest opponent. It will simply be swallowed up. The smaller army must advance against the enemy's most sensitive points, seek to attack the flanks and rear, and force the surprised enemy to carry out a change of front. If it does this, the smaller army takes upon itself the greatest of dangers and takes a significant risk, for its own flanks and rear are thereby seriously threatened. Such an action requires a focused leader who has an iron character and who possesses a determined will to win, and troops who understand the

army and then beating the remnants piecemeal. A victory could be made more decisive by pursuing the defeated army and attempting to destroy the withdrawing elements. By winning enough of these battles, the campaign would be successful. Thus in Jomini's analysis, breaking the enemy's line is a proximate cause of winning a battle, the pursuit phase makes the victory more decisive, and the advancing army gains strategic points. If the enemy is unable to offer more resistance, the campaign is won, the enemy is forced to capitulate, and after the peace treaty is signed, he is given a few years to nurse his grievances, regroup, and contest again in the field. Human suffering does not enter the picture.

Schlieffen regarded such a model of campaign as too time consuming and less sure of decisiveness than the Cannae model. Winning a battle is a few steps removed from the ultimate

...there would be no pursuit, no chance for the enemy to offer a second battle, no gentlemanly capitulation but rather abject surrender and no will to renew the contest until the memory of all those shocking deaths has faded.

the enemy between them.) Schlieffen foresees widely separated forces that do not come completely together at their place on the battlefield until after battle is joined, and for most of these forces, their place is on the flanks and rear of the enemy. In fact, this is simply an operational variation of the technique of concentration on the battlefield advocated and used by Moltke as a means of enveloping the enemy. In his plan for the invasion of France through Belgium, Schlieffen counted on the time and attention occupied in defeating his bait corps in Alsace-Lorraine drawing the French forward and actually speeding up their own envelopment. In the general case, the decisive battle with the enemy would be fought after the enveloping forces crashed down on the enemy's lines of communication and forced the enemy army to turn about and fight for its life with a reversed front. This sort of plan requires steely nerves on the part of the commander and is why the Schlieffen Plan was called "a

gravity of the undertaking. However, these factors alone do not bring victory. Victory requires that the enemy, surprised by the suddenness of the attacks, makes more or less confused decisions and that his rash decisions are spoiled by hasty execution.⁴⁸

JOMINI, SCHLIEFFEN AND MANOEUVRE WARFARE

Although Jomini and Schlieffen express remarkably similar views on the best means of defeating the enemy, there is a crucial difference between them in final ends (a final end is the reason for which a thing is done). Jomini spent a lot of effort in showing how to achieve intermediate ends, whereas Schlieffen constantly kept in mind how to achieve the final end. Jomini's conceptions revolve around defeating an enemy army, in which the term army refers to a thing possessing a unity of its own. Thus an army's line is broken or its flank is turned. Victory was achieved by breaking the cohesiveness of enemy

end of the war. It is a means to a further end. By stressing annihilation, that is killing large numbers of the enemy without at the same time suffering comparable numbers of casualties oneself, Schlieffen aimed at the final end directly. Schlieffen aims to destroy the very material out of which an army is made. If Schlieffen were able to encircle the enemy's entire army, there would be no pursuit, no chance for the enemy to offer a second battle, no gentlemanly capitulation but rather abject surrender and no will to renew the contest until the memory of all those shocking deaths has faded.

In practice, the reality of the two models appear similar because it is rare that an enemy's entire army can be enveloped in one battle. But Schlieffen's model offers a way to a swift, decisive and final victory, whereas Jomini's does not. Jomini's view does not look beyond the conclusion of the campaign, or even of the battle itself, whereas Schlieffen

aims for a tactical and strategic victory at once. The crucial difference between them is in ends—Jomini's being intermediate and Schlieffen's being final.

This crucial difference in outlook explains why Jomini's view leads to a concern for ground, whereas Schlieffen's is quite obviously fixed on the enemy. In World War I, the French, after much pain, adopted the strategy of "artillery conquers, infantry occupies." This is systematic way of gaining ground. The gaining of strategic points is the Jominian approach to a successful campaign. Schlieffen did not aim at the gaining of strategic points, he aimed at envelopment, and a point on the ground assumed tactical or strategic significance as an accidental feature of his plan for envelopment.

By today's standard, Schlieffen could be classified neither as an attritionist nor as a manoeuvrist. Schlieffen would argue that these two schools are in debate over the efficacy of means not ends. Attrition aims at the partial reduction of the military means of the enemy. There is no logical point at which an attritionist can claim to have fully achieved his end except when he has annihilated the military means of the enemy. What is the

the enveloping right wing, seven times larger in size than the force directly confronting the French, would sweep north through Belgium around the French fortress line, behind Paris and then press the French army against the Swiss frontier. The drawing of the French into Alsace would serve to deepen the envelopment. The plan failed because in the actual event Moltke the Younger strengthened German forces in Alsace and the French were forced to keep their reserves deeper in the French interior. Besides this, the German troops and horse drawn transport were not up to the pace demanded of them by the plan, and the advance collapsed from exhaustion. However, in East Prussia, Hindenburg and Ludendorff annihilated the 2nd Russian Army in the Battle of Tannenberg using the Masurian Lakes as a barrier in the manner war gamed by Schlieffen many times.

In World War II, mechanization greatly enhanced the mobility of the German army, and Schlieffen's concepts were applied with greater success. In 1939, Poland was confronted with a slow moving infantry army in the centre and panzer forces stationed in the extreme north and south.⁴⁹ Poland was crushed

In Russia, 1941, the Germans employed an operational method they called *Keil und Kessel*, "wedge and cauldron," tactics to encircle and annihilate the Russian armies.⁵¹ The Allies called them pincer attacks. The Germans fought seven major encirclement battles that summer and fall of 1941-Bialystock-Minsk, Smolensk, Uman, Gomel, Kiev, sea of Azov and Byransk-Vyszura-and they fought a further thirteen minor ones. In these battles, the Russians lost three million men captured, 14,287 tanks, 25,212 guns and an unknown number killed.⁵² These battles of annihilation destroyed the greater part of the Russian army in the west, but for all that, they were not decisive. Because the Russians were unable to commit all their forces at one time in the west, the Germans were never able to envelop the entire Russian army. There was always another Russian army behind it taking the field. In addition, the reduction of these massive pockets cost the Germans casualties. By the end of July, the Germans had suffered 213,301 casualties, or 15 per cent of their force, and 863 tanks, or 25 per cent of their force.⁵³ Because there were so many pockets to reduce, the Russians in effect had more total perimeter from which they could kill Germans. Though inflicting

By today's standard, Schlieffen could be classified neither as an attritionist nor as a manoeuvrist.

ultimate aim of manoeuvre? To break the enemy's line, or perhaps break up the cohesion of the enemy's army? And then what? Does final victory thereby fall into one's lap? The ultimate end of annihilation, either by slaughter or by capitulation, is not contained in either of these schools of thought. Schlieffen did not concern himself with these intermediate ends but rather the final end.

SCHLIEFFEN AND BLITZKRIEG

Schlieffen's ideas were applied with mixed success in World War I. The plan for the invasion of France failed. As envisioned by Schlieffen, the French would be drawn into Alsace-Lorraine by the weak opposition of a small nine-division force. Meanwhile,

between the enveloping wings. In France, 1940, the left wing of the Anglo-French armies was amputated by the breakthrough at Sedan and the subsequent rush to Abbeville. Its lines of communication cut, the largely British army was forced against the barrier of the English channel and destroyed on the beaches of Dunkirk. Had Operation DYNAMO failed, the British army would have been annihilated. It was four years before another British army appeared in France. Having finished off the British, the German army swept south, around Paris, and trapped the remaining French army between the Maginot line and the Swiss frontier. The German generals were satisfied at the Schlieffian appearance of their manoeuvre.⁵⁰

enormous losses on the Russians, the disparity in size and industrial capacity between the Russia and Germany meant that the German success rate was not a paying proposition. German replacements could not keep pace with losses. The Germans were winning many battles decisively, but they could not engage the Russians in a decisive battle. The Russians in 1941 were unable or unwilling to commit to one, and the Germans were unable to force one. The Germans might have captured Moscow before the Russian army in Siberia, equipped with T-34 tanks, could be committed in force. These facts in no way discredit Schlieffen's operational ideas. In fact, they tend to substantiate them. Regardless, the blitzkrieg tactics the Germans used between 1939 and

1941 were based upon Schlieffen's idea of envelope and annihilate. The reason the Germans never thought that, with blitzkrieg, they had developed something new was because mechanization, tanks and aircraft merely afforded superior means with which to better implement Schlieffen's operational concepts, i.e., the same ends were achieved using improved means. Manoeuvre warfare, which upholds blitzkrieg as the first example of its art, shows itself to be a fascination with a tactical method that is based upon the operational concepts of Field Marshal Count Alfred von Schlieffen.⁵⁴

devoted to a tactical method that lacks a final aim. Because the system or method lacks a final aim, it is possible to hear of such things as applying the precepts of manoeuvre warfare to operations other than war (OOTW). If manoeuvre warfare had imbedded in it the final aim of annihilation, applying the tenets of manoeuvre warfare to OOTW would result in a Schlieffian solution to keeping the peace!

Envelopment is one of the fundamental means of winning battles. It has proven successful irrespective of time, place and contending parties.⁵⁵

force be simultaneously engaged from all sides. For this, advance and manoeuvre throughout the battle by fighting elements are necessary to continue to bring effective fire on the enemy.

Since the enemy is annihilated by fire, no fighting element can be considered to be strictly manoeuvre or strictly fire. To be effective in envelopment, each fighting element has to be capable in its own way of both fire and manoeuvre. A fire element that cannot manoeuvre is not much more useful than a manoeuvre element that cannot kill.

The annihilation of the enemy is the end of military operations for both sides.

CONCLUSION

If Schlieffen were to write an Operations order today, his mission statement would invariably read "to annihilate the enemy in accordance with the following scheme of envelopment." He would expect his forces to attack the enemy as a pack of hungry wolves attack and devour prey. A vision like this, its simplicity, and the utter absence of doubt as to intent was the "secret of victory" Schlieffen imparted to the general staff. Having given subordinate commanders orders such as these, it would ill-behoove their implementation to introduce an element of doubt by requiring subordinate commanders to ask permission before they attacked. Hence, *auftragstaktik*, as a method of implementation, falls obviously and logically out of the operational theme of Schlieffen, and before him, of Moltke. It was so obvious a method, in fact, that the Germans never thought of giving it a name.

The definitions of manoeuvre warfare given it by its advocates are philosophically poor and are impediment to understanding.⁵⁶ A good definition is manoeuvre warfare is a kind of warfare characterized by efforts to envelop the enemy forces with the aim of annihilating them. Manoeuvre warfare has come to refer to a system or school of thought

Successful envelopment requires that the bulk of the forces, including the reserves, be stationed on or behind the wings. The larger the force that reaches the rear of the enemy, the more decisive the result. So instinctive is the resistance to envelopment, that the enemy has to be tricked into it. One trick is to lure the enemy force into attacking "bait." Another is to hold the enemy in place by means of a frontal attack while the manoeuvre is completed. There is, however, no rule as to how envelopment is to be accomplished; the method is dependent upon the skill of the commander and the circumstances of the action. Because the decision of the battle is to be gained by the enveloping forces—and the greater the envelopment, the more decisive the result—the force holding the attention of the enemy should be no larger than necessary to do the job. If the enemy is too large to completely encircle, one side of the enemy can be covered by a barrier such as a body of water or the border of a neutral state.

Envelopment of the enemy is inseparable from the mindset of annihilation. Envelopment does not require that the enemy position be attacked and carried at the point of the bayonet. The enemy force is annihilated by a fatal circle of fire. Proper use of envelopment does require that, in the end, the enemy

Envelopment of the enemy is not always easy to achieve. It requires both a Hannibal on one side and a Terentius Varro on the other.

The end of military operations is the annihilation of the enemy. The term annihilation contains the meaning both of slaughter and capitulation. Capitulation contains an element of acceptance of one's fate. Capture does not.

It is not the business of the soldier to make peace; making peace is a political affair. It is the job of the soldier to bring about conditions most advantageous to his political masters at the peace table. The most advantageous condition occurs when the political power is able to dictate the terms of peace, and the enemy cannot resist the will of that political power. An enemy whose army is annihilated has no military means of resisting the will of the victorious political power, and this is why annihilation is the end at which the military commander ought to aim. Political considerations may lead the political power to direct its military force not to aim at annihilation.

Cohesiveness is the property an army has when it has the potential to act as a unified whole towards the attainment of a single object. The property is capable of being

possessed in greater and lesser degrees. When the property of cohesiveness vanishes, the army is said to be destroyed. The army has lost the quality of being a unified whole. What remains is no longer a real army though it is possible for the remnants to reform into a real

army. An army is annihilated when, in addition to losing its cohesiveness, a large proportion of its members are killed.

The annihilation of the enemy is the end of military operations for both sides.



ENDNOTES

1. Alfred von Schlieffen, *Military Writings*, Translated by Robert T. Foley, Frank Cass Publishing, London, 2003. See also Jehuda Wallach, *The Dogma of the Battle of Annihilation*, Greenwood Press, Westport Conn, 1986; Alfred von Schlieffen *Cannae Studies* translated and published by Command and General Staff School Press, Ft Leavenworth Kansas, 1931; Arden Bucholz *Moltke, Schlieffen, and Prussian War Planning*, St. Martin's Press, 1991.
2. James S. Corum *The Roots of Blitzkrieg* University Press of Kansas, 1992. See also the introduction to Cannae Studies and Matthew Cooper, *The German Army 1933 - 1945*, Scarborough House Publishers, 1978. It is a theme of Cooper's work, and also that of Wallach, that the German army did not implement any new operational doctrine during World War II, but carried on with the doctrine that descended to them from Schlieffen. It should be noted in passing that the Germans were not philosophical system builders. They had doctrine but were not doctrinaire about it. They carried on with the doctrine of annihilation not out of any false attachment to the past or lack of imagination, but because the doctrine was still applicable to the tactical-strategic situation in which they found themselves. Indeed, because annihilation is the end at which military operations aim, it is more truly a fundamental principle than it is a 'doctrine.' A doctrine may be true or false, a fundamental principle is always true and never false.
3. Foley, loc. cit., p. 91 (Tactical-Strategic Problems 1896)
4. Ibid, p. 95 (Tactical-Strategic Problems 1903)
5. Ibid, p. 70 (General Staff Ride East 1903)
6. Ibid, p. 84 (Tactical-Strategic Problems 1896)
7. Ibid, p. 94 (Tactical-Strategic Problems 1903)
8. Ibid, p. 63 (General Staff Ride East 1903)
9. Ibid, p. 113 (Tactical-Strategic Problems 1905)
10. Carl von Clausewitz *The Campaign of 1812 in Russia* Da Capo Press, 1995.
11. Ibid, p. 210 ff (Cannae Studies)
12. Ibid, p. 212 (Cannae Studies)
13. Ibid, p. 210—211
14. Ibid, p. 214
15. Ibid, p. 212
16. Ibid, p. 213
17. Ibid, p. 218
18. Ibid, p. 200 (War Today—1909)
19. Ibid, p. 211 (Cannae Studies) Italics mine.
20. Ibid, p. 214
21. Ibid, p. 34 (General Staff Ride East 1897)
22. Ibid, p. 34
23. Ibid, p. 127 (*Kriegsspiel* 1905)
24. Ibid, p. 46 (General Staff Ride East 1899)
25. Ibid, p. 46
26. Ibid, p. 42
27. Ibid, p. 53 (General Staff Ride East 1901)
28. Ibid, p. 127 (*Kriegsspiel* 1905)
29. Ibid, p. 58 (General Staff Ride East 1901) Italics original.
30. Ibid, p. 103
31. Ibid, p. 127 (*Kriegsspiel* 1905)
32. Ibid, p. 114 (Tactical-Strategic Problems 1905)
33. Ibid p. 127 (*Kriegsspiel* 1905)
34. Ibid, p. 98 (Tactical-Strategic Problems 1903)
35. Ibid, p. 201 (War Today 1909)
36. Ibid, p. 166 (Memorandum 1906) This was the proposal for the "Schlieffen Plan"
37. Ibid, p. 33 (General Staff Ride East 1897)
38. Ibid, p. 63 (General Staff Ride East 1903)
39. Ibid, p. 80 (Tactical-Strategic Problems 1892) Italics mine.
40. Ibid, p. 94 (Tactical-Strategic Problems 1903)
41. Ibid, p. 126 (*Kriegsspiel* 1905)
42. Ibid, p. 30 (General Staff Ride East 1897)
43. Ibid, p. 126 (*Kriegsspiel* 1905)
44. Ibid, p. 127
45. Baron Antoine de Jomini, *The Art of War*, Stackpole Books, 1995. See also Vincent J. Curtis "Jomini on Battlefield Tactics" ADTB to be published.
46. George S. Patton, Jr. *War As I Knew It*, Bantam Books, 1981. p. 330 "The policy of holding the enemy by the nose with fire and kicking him in the pants with movement is just as true as when I wrote it some twenty years ago, and at that time it had been true since the beginning of war....When you have bumped [the enemy] hold him at the point of contact with fire with about a third of your command. Move the rest in a wide envelopment so that you can attack in his rear flank. The enveloping attack should start first. The initial nose attack starts to move forward only when the enemy has properly reacted to the enveloping attack." See also p. 322: "Battles are won by fire and movement. The purpose of the movement is to get the fire in a more advantageous place to play on the enemy. This is from the rear or flank." The opening scene of the movie "Patton" shows Patton stressing both annihilation and envelopment.
47. For an account of a successful modern example of envelopment by a battalion sized force see: David H. Hackworth, *Steel My Soldier's Hearts*, Rugged Land Publishing, NY, 2002, p353-394. For an envelopment unsuccessful because of a failure to engage simultaneously see the account of the battle of Ap Bac (1963) in: Neil Sheehan, *A Bright Shining Lie*, Random House, NY 1989, p. 212-265.
48. Foley, loc. cit., p. 138
49. An excellent account of the Polish, French, and Russian campaigns is contained in: Erich von Manstein *Lost Victories*, Presidio Press, 1994.
50. Wallach, loc. cit. p. 260—261.
51. Timothy A. Wray *Standing Fast: German Defensive Doctrine on the Russian Front During World War II* Combat Studies Institute Research Survey No. 5 1986, p. 33
52. Cooper, loc.cit. p. 290 —291.
53. Ibid, p. 311
54. Philosophical accounts of manoeuvre warfare abound. The two most famous are: William S. Lind *Manoeuvre Warfare Handbook*, Westview Press, 1985; and Robert Leonhard, *The Art of Manoeuvre*, Presidio Press, 1994. Lind completely misses the element of annihilation and is concerned entirely with technique and system building. Leonhard's book is an egregious example of bad philosophical system building.
55. Cf Leonhard loc. cit. p. 19, 161, 182.
56. There can be, therefore, no essential 'way of war' based on culture. Apparent cultural features in methods of war fighting are accidental, not essential, attributes. Cf Roman J. Jarymowycz *ADTB* 4 (3) 2001, p. 60ff and *ADTB* 2 (3) 1999, p. 48.

BOOK REVIEWS



Fields of Fire: The Canadians in Normandy

by Terry Copp (Toronto: University of Toronto Press, 2003). Hardcover: ISBN 0802037305.

Reviewed by Brian Holden Reid

Over the past two decades Terry Copp, a professor of history at Wilfrid Laurier University and co-director of the Laurier Centre for Military Strategic and Disarmament Studies, has built his reputation as an energetic chronicler of the Canadian army's part in the campaign in North West Europe during World War II.

In his latest book, *Fields of Fire*, Copp argues that "the achievement of the Allied and especially that of the Canadian Army in Normandy has been greatly underrated, while the effectiveness of the German army has been greatly exaggerated." The core of this argument is developed in the book's opening chapter, "Military History without Clausewitz," which itself is adapted from the lecture he delivered as part of the Joanne Goodman lectures at the University of Western Ontario. The title of this chapter, implying as it does a rejection of one of the most influential writers about the military profession, is both an indication of a social historian's suspicion of "yet another nineteenth-

Command," which appeared in 1991. Copp criticizes English for having decided that Canadian performance was lacklustre not from any depth of academic analysis or any examination of the evidence in English's book but from English's military experience and exposure to the prevailing attitudes in the North Atlantic Treaty Organization, before he began preparing his study, and notes that English intended to "employ the wisdom of Carl von Clausewitz, involv[ing] the application of theoretical truths to actual events." Copp contrasts this approach with that of John Keegan, who identified key differences between what he learned from the study of the theories of Clausewitz about the nature of war and what he had learned from personal contact and discussions with men who had experienced battle.

Copp methodically reviews the development of the prevailing theory of German superiority in battle and demonstrates that its foundations are built in part on the premise of the unwilling Allied warrior espoused by the American historian S.L.A. Marshall, who apparently

Copp has spent a considerable amount of time on the ground in Normandy.

century authority figure" and Copp's belief "that if I really learned what had happened, I would know why it had happened that way."

Copp has spent a considerable amount of time on the ground in Normandy. The depth of his knowledge is evident throughout the book, although at times one may be excused for wondering if the author may not be trying to make the events fit his perceptions and not the other way round. Be that as it may, Copp challenges conventional wisdom in an attempt to rehabilitate the reputation of the Canadian army in the Normandy campaign by refuting the assessment of that army's official historian, Colonel Charles P. Stacey, that Montgomery directed a masterful campaign, albeit one that succeeded because of superior numbers and materiel rather than any skill at arms by his troops, and that the performance of the Canadian army was less than sterling, in part because it was new to battle and in part because of the inadequacies of many regimental officers.

Copp then turns his attention to John A. English, who castigates our army's general officers in *The Canadian Army and the Normandy Campaign: A Study of Failure in High*

falsified the research that underpinned the thesis of his famous study, *Men Under Fire*. Copp also castigates Russell Weigley, who in his work *Eisenhower's Lieutenants* followed Marshall's lead but went further to state that the German army "could claim to be qualitatively the best army in the world" in 1944. Copp also questions Colonel Trevor Dupuy's methodology, as postulated in *A Genius for War and Numbers, Predictions and War*, as analysis based on "unproven assumptions" and suggests that Martin Van Creveld's seminal 1983 study *Fighting Power: German and U.S. Army Performance, 1939–1945*, drawing as it did on Dupuy's efforts, lacks veracity.

Copp traces the British origins of the theory of German superiority to Chester Wilmot and Basil Liddell Hart, who contrasted the superior generalship of Montgomery "with the constant interference from Hitler that paralysed the German Command." He also singles out Liddell Hart as the originator of the belief that the performance of the German soldier on the battlefield was generally superior to his American, British and Canadian counterparts—the "donkeys led by lions" school of thought, which influenced the British journalist Max Hastings to write of "the glory of

German arms in Normandy," and develop his best-selling *Overlord: D-Day and the Battle of Normandy* in a similar vein.

Copp correctly notes that, while this established view of the superiority of German arms is being challenged in the United States, at least as it applies to the American forces, British historians continue to claim that the British and (especially) Canadians were poorly trained, motivated and led. While his arguments are well marshalled, they are less well developed, and his position is damaged by a series of irritating, small factual errors, including three on the first page alone: Stacey's *The Victory*

equipment and doctrine and their general's feet of clay. With this in mind, he proceeds to examine the Canadian part in the campaign from D-Day to the closing of the Falaise Gap, with individual chapters devoted to the invasion itself, the battle for the bridgehead, the struggle for Caen, the stalemate that followed, Operations GOODWOOD and ATLANTIC, the deadly Operation SPRING and the attacks along the Caen-Falaise corridor—TOTALIZE and the grossly-understudied TRACTABLE—culminating in the closing of the gap. Finally, the author sums up the Canadian part in the campaign, arguing with more than a little vigour

example, for re-aligning his forces away from the eastern end of the beachhead on 27 July in pursuit of the overall campaign strategy of a general advance to trap the Germans against the Seine River and thus being unable to exploit the opportunity created by Hitler's ill-conceived Mortain offensive. While I am hardly an avid Montgomery-booster, Copp's claim that this was Montgomery's greatest strategic blunder of the war is a bit much. Be that as it may, Copp is on far safer ground when he criticizes Montgomery for his inertia and lack of drive during the weeks it took to close the Falaise Gap and for his rather unfortunate habit of shunting divisions that had earned his displeasure to the

Canadian generals come in for their share of criticism, often for very good reason.

Campaign appeared in 1960, not 1962; Wilmot is consistently misspelled Wilmott; and Montgomery was a general, not a lieutenant-general, in 1944. Furthermore, Copp's assertion in the first paragraph of *Fields of Fire* that Stacey's observations were similar to the attitudes of "the Vietnam War generation and the CBC" surely is an atrocious distortion of the facts. That is not to say there is not merit to the author's thesis. An excellent case can be made that the Canadian army did not have the worst troops in Normandy; what it did have was the most (some might argue the only) honest official historian. In fact the overwhelming majority of the critics of the Canadian army have resolutely ignored Stacey's comment that the criticisms he made of his own army could also be levelled at the United States and British armies.

Copp is determined that his reassessment of the work of the historians must be multi-faceted: firstly, he must point out the errors in the conduct of the campaign by the Allied high command; secondly, Canadian generalship must be scrutinized under the same critical microscope; and thirdly, the Canadian conduct of the campaign at the brigade and regimental/battalion level must be shown to have been of a high standard despite the inadequacies of their

that "the Canadian army played a role out of all proportion to its relative strength among the Allied armies," and that the "oft-quoted statistics which show that the Canadians suffered considerably heavier casualties than did the British divisions in 21 Army Group are the product of a greater number of days in close combat, not evidence of operational or tactical failure." This last statement, along with Copp's claim that Canadian divisions were required to fight more often than their British counterparts due to "a mixture of Canadian pride and the British desire to limit their own casualties," comes perilously close to being a charge that the British were prepared to fight to the last Canadian. If there is any substance to this allegation, then surely the sources indicating the number of days each division in 21 Army Group fought (particularly those days in which they were engaged in major offensive operations as opposed to holding static positions) along with its casualties should be cited, as clearly this is an explosive issue. Unfortunately, that evidence is not included.

With his main theme firmly in mind, the author misses few opportunities to castigate the Allied general officer corps. Montgomery is criticized, for

I British Corps area south and east of Caen. The author also questions some of the decisions made by both Dempsey, the commander of Second British Army and Crocker, who led I British Corps. While neither is blameless, Copp's criticisms of their actions sometimes goes too far. For example, he suggests that Dempsey's haste led to the debacle at le Mesnil-Patry, while ignoring the unexplained delay in battle procedure within 3rd Canadian Division and 2 Canadian Armoured Brigade noted by Michael McNorgan in "Black Sabbath for the First Hussars," contained in *Fighting for Canada: Seven Battles, 1758–1945*.

Canadian generals come in for their share of criticism, often for very good reason. While more or less supportive of Crerar, the commander of First Canadian Army, the author is generally critical of Lieutenant-General Guy Simonds, who led II Canadian Corps and his three divisional commanders. He has little good to say, in particular, of Major-General Charles Foulkes of 2nd Canadian Infantry Division, whose actions in Operation SPRING were those of a highly-paid postal worker forwarding mail. In fact, the general's name appears 18 times in the index to *Fields of Fire*: seven of the references are unfavourable, some highly so, while ten are neutral and only one is

favourable. The author may have felt his criticism of the five Canadian senior commanders in Normandy goes too far, as he writes (p. 266) that

Though some would agree with Stacey that Crerar was an adequate army commander and Simonds the equal of any corps commander in the Allied or German armies, it does not seem possible to argue that any of the three Canadian divisional commanders passed the test of battle. *It is not however clear how much of this failure of leadership at the divisional level mattered.* The major responsibility of the divisional commander and his staff was to ensure that the formation was prepared for battle, and from a logistical and administrative perspective, the Canadian armies were well served. [My emphasis.]

Leaving aside the lukewarm endorsement of Crerar and Simonds

impetus of the attack, for mopping up the battlefield, and for the provision throughout of secure pivots on which each phase of the attack is successively based.

While this directive may have been a direct reaction to the propensity of British armoured commanders in North Africa to mount their tanks and ride off in all directions, it does reinforces the basic truth that the key role of the divisional commander is to command and lead the only field formation that had a permanent combination of all arms and services in sufficient numbers to fight a protracted battle along with the resources to organize and control these forces in a competent, timely and coordinated manner.

If Copp is overly critical of the senior officers, he at times may go too far the other way in excusing the performance of the brigadiers and their subordinates. In his chapter on Operation SPRING, Copp notes

It must be emphasized and understood (although Copp does not seem to understand it) that the commitment to carrying out one's orders must not override the exercise of basic tactical principles and common sense. To do otherwise is wrong. It was wrong then, and no amount of apologies will make it other than wrong now. This is not the only example, as will be seen later in the discussion of Operation TOTALIZE, of Copp excusing incompetence on the part of the commander of 4 Armoured Brigade, while failing to mention his professional misconduct later in the battle.

Copp goes to extraordinary lengths to highlight the shortcomings of British and Canadian doctrine and equipment. For example, throughout his book, he cites a number of operational research studies in support of his views on these subjects. As these studies were usually prepared by soldier-scientists far removed from the

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and the dubious exclusion of any comment on the tactical competence of the Canadian divisional commanders, few military professionals would agree with Copp's claim that the main responsibility of the divisional commander was to manage the preparations for battle, including administration and logistics, especially in the prevailing circumstances in the British and Canadian armies, where decision-making was centralized at as high a level as possible. For example, paragraph 108 on page 38 of the 1943 British Military Training Pamphlet No. 41 Part 1, *The Tactical Handling of Armoured Divisions*, in discussing offensive action, firmly states that

The divisional commander will himself directly control the action, since he alone will be in a position to appreciate the whole situation, and by handling of all the components of his division to ensure a balance between the necessity of maintaining the

(p. 175) that Brigadier Megill, the commander of 5 Canadian Infantry Brigade, accepted responsibility for not insisting that the Black Watch concentrate on securing St. Martin-de-Fontenay and May-sur-Orne rather than carry on with the attack as planned. Copp was not prepared to accept this, for he writes that

If Megill's recollections are accurate, than his failure to intervene was one of the most unfortunate decisions made during the battle. But are hindsight and recollections offered forty-five years after the events useful historical tools? All we really know from the contemporary sources is that every decision maker, including Griffin [the acting commanding officer of the Black Watch], was committed to carrying out the second phase of Spring as soon as possible. At 0830 the operation had been underway for five hours and still seemed full of possibilities.

events, and while they are most useful in determining hard data, they can not be taken as a reliable measurement of human factors and other uncertain variables. In fact, if one is not careful, study results taken on their own may lead one in unexpected directions.

In this regard, it would appear that the author of *Fields of Fire* has fallen into this trap. Consider his conclusion that the British and Canadian artillery was ineffective during the Normandy campaign, and therefore the infantry was unable to manoeuvre using fire and movement against enemy positions. To support his case Copp cites operational research studies of the accuracy of predicted fire—fire directed at a map reference and not corrected by an observer—conducted under different conditions than those that normally prevailed in Normandy. Be that as it may, in practice both static artillery observation posts and forward observation officers were used to correct fire that was off the target, and since artillery is not a point weapon,

covering as it does a large area on the ground even if the mean point of impact of the rounds is off the centre of the target, the fire can still be effective. Furthermore, the simple fact that the Allied armies were able to call for and deliver heavy concentrations of artillery fire, to put it simply, overwhelmed the Germans both figuratively and literally, there can be no doubt that the Germans would have argued strenuously against the premise that our artillery was ineffective.

In his analysis of the second group of studies, Copp rightly notes that the tactical aircraft of the day were quite ineffective in the role where the army expected them to make the greatest contribution, that is in what we would call close air support of the ground forces. (Regardless of that, it is unlikely that any German soldier ever volunteered to be on the receiving end of an air strike.) There were ways that this could have been overcome, which in fact the American tactical air forces had instituted, but these methods were resisted by RAF commanders, and air force independence seemed on more than one occasion to almost have been of greater importance than defeating the German ground forces. The situation was not improved by the relationship between Montgomery and Air Marshall Coningham, the commander of Second Tactical Air Force (2 TAF); it is not too much to say that Coningham loathed Montgomery after having served with him in North Africa.

In any case, armed reconnaissance—beating up rear areas—hardly seemed worth the effort for the rather meagre results achieved, and there were occasions when the timely appearance of even a flight of four Typhoons over the battle area would have had an instant physical and morale effect, but the fighter bombers were chasing German transport up and down the roads well away from the front. Phase Two of TOTALIZE provides a vivid example of this lack of cooperation between the ground and air forces. A number of possible German positions lay too close to our town troops to be safely attacked by heavy bombers, and Simonds's staff requested time and time again in the days leading up to

the operation that these positions be attacked by tactical aircraft. That the air force chose to go its own way is abundantly clear not only from German records, which note incredulously that Allied fighter bombers were nowhere to be seen, but from the 2 TAF Operations Record Book, which indicates that the major air effort on 8 August was spent attacking shipping on the Seine and conducting armed reconnaissance in the German rear areas, while what close support provided for ground forces there was, was split between First Canadian Army and Second British Army.

While Crerar, Simonds and their staffs may be faulted for not recognizing that air power could not be guaranteed and delivered in a timely manner like artillery fire, the intransigence of senior air commanders in Normandy certainly was not helpful. (This attitude did not extend down to the wings and squadrons where the air crew performed their dangerous task with considerable skill and remarkable gallantry.) The overall contribution of 2 TAF to the campaign in Normandy clearly is a subject that requires further study, and Copp is to be congratulated for questioning it.

Space does not permit a detailed examination of each chapter of *Fields of Fire*, but a discussion of some of Copp's conclusions in the chapter titled "Falaise," which covers Operation TOTALIZE, will suffice to demonstrate the strengths and weaknesses of Copp's work. TOTALIZE was the first operation mounted by First Canadian Army, an event the import of which has eluded most historians. In fact, the "sexier" aspects of the battle, such as the first use of armoured carriers to carry infantry forward through the enemy's defences and the substitution of heavy bombers to replace massed artillery, have largely obscured an objective examination of the battle, and the available published literature is rife with errors.

Regrettably *Fields of Fire* is no exception. To briefly summarize, TOTALIZE, as executed, was a two-phase operation that aimed to break through the German defences astride

the Caen-Falaise highway. In Phase One two infantry brigades—with the rifle companies mounted in improvised armoured personnel carriers, universal carriers and half-tracks—and two armoured brigades would penetrate the German defence lines under the cover of darkness and drive through to their final objectives supported by both an artillery barrage and heavy bomber attacks to seal off the flanks. In Phase Two the plan was for two armoured divisions to pass through the Phase One positions and advance to their final objectives north of Falaise on both sides of the Caen-Falaise road. Rather than wait for the supporting artillery to move forward, in this phase General Simonds opted to substitute heavy bombers for guns to attack what he had identified as the second German defence line. Before going any further it may be emphasize once again that the aim of the operation was to break through the German positions astride the Caen-Falaise road not to capture Falaise—although that came later—and certainly not to close the Falaise Gap to trap the German armies in Normandy. In fact the gap did not exist when the operation was planned, and the decision by Eisenhower to abandon the strategy of trapping the German armies against the Seine River in favour of the "short envelopment" in the Falaise area was not taken until Phase Two of TOTALIZE was already underway.

On the plus side, Copp notes that too much weight has been given over the years to the various accounts of the battle written by Kurt Meyer, who commanded 12 SS Panzer Division in the action. Meyer was an outstanding divisional commander who had the uncanny ability to appear at the right place at exactly the right time and then take action that more often than not restored the situation; however, his accounts deliberately neglected the contribution of the other German formations that fought in the battle, especially 89 Infantry Division, in order to enhance the legacy of his young soldiers, most of whom had become casualties in Normandy. Copp is correct in criticizing Meyer for this misrepresentation, which has coloured and distorted the interpretation of the battle ever since. Indeed, it is clear

that a double standard has often been applied to the studies of TOTALIZE. On the one hand, even the smallest mistake or mishap is fair game for historians eager to find examples of Allied incompetence and tactical inferiority, while, on the other, the poorly-coordinated and executed counter-attack mounted by 12 SS Panzer Division and Tiger tanks of 101 SS Heavy Tank Battalion, which was handily defeated with heavy German losses, has escaped any sort of adverse comment, as has Meyer's failure to identify the threat posed to his left flank by an Allied advance to Hautmesnil. The capture of this hamlet by the Argyll and Sutherland Highlanders of Canada and C Squadron, the South Alberta Regiment forced his troops to abandon their forward blocking position and hurriedly withdraw in some disorder to the heights just north of the Laison River.

On the negative side, Copp errs in his description of the Phase One forces when he writes (p. 198) that the four attacking columns were all based on

fact, had three parallel sub-columns each of a gapping and an assault force based on a tank squadron and a carrier-borne battalion, while the remainder of the main column was a fortress force of an armoured regiment less a squadron (which was with the third column) and elements of the headquarters of 2 Canadian Armoured Brigade and 4 Canadian Infantry Brigade. (Gapping, assault and fortress forces are terms current in the tactical manuals of the day dealing with the deliberate attack on a prepared position.) All four columns included flail tanks and armoured assault vehicles as well as various supporting arms such as anti-tank guns, heavy mortars and medium machine-guns, and, of course, the ubiquitous forward observation officers.

In his concern to exculpate the understrength 2nd Canadian Infantry Division—which in my opinion on the whole performed admirably—Copp's claims (p. 196) that 51st Highland Division, the other Phase One

in the plan, which was communicated to the divisional commanders at 1000 hours on 6 August, or 37 hours before H-Hour, for the lapses in battle procedure that occurred in the armoured brigade of 4th Canadian Armoured Division when he writes (p. 194), "The changes were explained to divisional commanders at a conference called for 1000 on 6 August. This left little time for proper briefing of subordinate officers." While the brigade did have problems completing its preparations, these were not duplicated in any of the other formations in II Canadian Corps, and in particular the two divisions most effected by the alterations in plans. Major-General Stanislaw Maczek's 1st Polish Armoured Division arrived in its new forward assembly areas on time, and in the correct grouping and order of march, after a long road move from the area of Bayeux despite what was virtually a complete change in its mission and tasks, while Major General Charles Foulkes's 2nd Canadian Infantry

Copp deserves our thanks for instigating what hopefully will be only the opening round in a renewed debate on the performance of the Canadian army in Normandy.

the same organization of a gapping force of two troops of Shermans, two troops of mine-clearing flail tanks and a troop of armoured engineer vehicles followed by an assault force of more Shermans leading an infantry battalion transported in carriers with more tanks bringing up the rear as a fortress force. In fact, the composition of the four columns—two British and two Canadian—varied considerably. Working east to west, the first column consisted on an armoured regiment and a carrier-borne infantry battalion, while the second column was made up of an armoured regiment and a carrier-borne battalion followed by another regiment and battalion organized on a similar basis. Moving into the Canadian sector, which in fact had adopted the organization Copp describes, the third column was made up of an armoured squadron followed by the divisional reconnaissance regiment mounted in its own universal carriers. The most westerly column, in

division, was "rested, reinvigorated and ready to roll," unlike the Canadian division, which suffered from a shortage of infantry reinforcements. While it is true that the Highland division had been revitalized by its new commander, it still suffered from the manpower problems that plagued both the British and Canadian armies in Normandy. This was made abundantly clear on p. 40 and 54 of the British Army of the Rhine "Totalize Battlefield Tour" booklet (a document which Copp cites in his chapter notes) as some of the division's infantry battalions had reorganized on a three company basis in order to field seven-man sections, while other battalions had kept four companies, each with only two platoons and a support group of seven or eight men armed with the 2-inch mortar and the Bren guns of the disbanded third platoon.

While discussing TOTALIZE, the author also errs in blaming the changes

Division was now suddenly faced with the additional brigade-sized task of establishing a firm base around Bretteville-sur-Laize but was able to successfully complete all its assigned tasks, albeit with some difficulty. One can only conclude, therefore, that since the rest of the formations in the corps, including 10 Canadian Infantry Brigade, the other brigade in 4th Canadian Armoured Division, were able to complete their preparations in a timely manner, the breakdown in battle procedure was the fault of the commander of 4 Canadian Armoured Brigade, Brigadier EL Booth, who in fact issued orders to his subordinate commanders at 1000 hours on 7 August and then held a unnecessary second brigade orders group at 1800 hours, or five hours before the Phase One H-Hour and six and one-half hours before his brigade was to start its move to its forward assembly area behind the road between St Andre-sur-Orne and Hubert-Folie.

Turning to a more technical matter, the methodology selected for the 12 maps in *Fields of Fire*, while excellent for a large page format on glossy magazine paper does not work as well on coarse paper in a book-sized publication. This is most unfortunate as the maps do contain lots of information. One can only wish that the publisher, the University of Toronto Press, had taken greater cognizance of the needs of the reader.

While I have highlighted a number of major deficiencies in the book, this is not to condemn *Fields of Fire* as being without merit. While Copp's

methodology, based largely on trying to write the British and Canadian high command (and all but a few references to unflattering German assessments) out of the equation, is akin to painting a rosy picture of economic performance by ignoring under-performing sectors of the economy, there is no doubt that he has raised important issues regarding the accepted views of the Canadian performance in the Normandy campaign. It is most unfortunate that his dubious and unsubstantiated claims and his many errors in fact throughout the book seriously detract from the thrust of his argument. However,

Copp deserves our thanks for instigating what hopefully will be only the opening round in a renewed debate on the performance of the Canadian army in Normandy.



Peewees on Parade: Wartime Memories of a Young (and Small) Soldier.

by John A. Galipeau, as told to Pattie Whitehouse (Toronto: Robin Brass Studio, 2002), 264 pages with 5 maps and 50 photographs. Paperback: \$24.95 Cdn.

Reviewed by Major G.R. Hall

If you are looking for a military history, this is not the book for you. But that was not the intent of John Galipeau when he wrote it. Rather, he wanted to tell a story of what it was like to live, train and go to war with a platoon of the South Alberta Regiment (SAR), and Mr. Galipeau has achieved his aim with an interesting read.

The South Alberta Regiment was initially formed as an infantry battalion at the start of the Second World War. It was organized around five militia regiments: the South Alberta Regiment, the Edmonton Fusiliers, the 19th Alberta Dragoons, the 15th Alberta Light Horse and the Calgary Regiment (Tank). The unit's role would later be switched from infantry to armour, and as such, it fought in France, Belgium, Holland and Germany.

The book is written chronologically and starts by describing Mr Galipeau's life as a teenager at the end of the Great Depression (1939). The next four chapters deal with the formation of the South Alberta Regiment, the author's enlistment in June 1940 and his initial training at Edmonton and Dundurn in Alberta and at Nanaimo,

British Columbia until May 1941. It is in this section that the reader learns why the book is entitled *Peewees On Parade*. The Army then used (and still does today) a parade drill to form its soldiers into a formation. This drill entails having all the soldiers line up by size (tallest on the right) and then, using the magic of drill, forming them so that the tallest soldiers would be on either end and the shortest would be in the middle. However, the South Alberta Regiment platoons were originally organized by taking blocks of soldiers. This resulted in all the tallest soldiers being formed into one platoon while the shortest soldiers (those under 5'3") formed another platoon: 12 Platoon, B Company. The members of 12 Platoon based their sense of identity and cohesiveness on their size, and after an NCO once told the "peewees" to form up for parade, they kept that name as a proud identifier. The author was a member of the "peewees."

After basic training, the South Alberta Regiment traveled to Niagara Falls, Ontario to guard vital points such as canals, power points and rail lines. It then moved to Debert, Nova Scotia, where it became an infantry component of the 4th Canadian Armour Brigade. In January 1942, the

South Alberta Regiment changed roles from infantry to armour (tank) and became the 29th Canadian Armour Regiment. The author became a wireless operator/loader.

In August 1942, the brigade finally sailed to England and trained at Headley (south of London) and Aldershot using Canadian Ram tanks and then Sherman tanks. The regiment became the 29th Canadian Armoured Reconnaissance Regiment of 4th Canadian Armour Division. In July 1944 the South Alberta Regiment went to France, landing at Courseuelles-sur-mer, and took part in the battles to close the Falaise Gap. The regiment was in an action in the town of St Lambert-sur-Dives, which earned the squadron commander a Victoria Cross. The photograph on page 171, which is of the aftermath of this action, is a well-known image of the Falaise Gap campaign.

The "peewees" then crossed into Belgium and helped to clear the Scheldt Estuary. A clear image remembered by Mr Galipeau was the joy of the Belgians in being liberated but the horror of their lack of food after the German occupation. The same happy-to-be-liberated-but-hungry-and-distrustful theme is emphasized when recounting the

regiment's move into Holland. It is at the beginning of the Holland campaign that the author was made a tank crew commander, although still a corporal. In February 1944 the regiment crossed into Germany and went from being a liberator to being an invader. After fighting at the Hochwald Gap (Operation BLOCKBUSTER), the "peewees" moved back to Holland to refit and reorganize. The author became a sergeant and tank troop second in command for the crossing of the Rhine and retained that rank until the South Alberta Regiment was stopped by the Kustin Canal.

When the war ended, the South Alberta Regiment turned in their tanks in Holland. The author arrived back in

Canada in October 1945 and was promptly discharged. He has returned to Europe three times since then: in the 1950s, in 1992 and again in 1995 for the 50th anniversary commemorations.

The 56 photographs enhance the telling of the story and the four maps, mostly taken from the South Alberta Regiment's unit history, are relevant and easy to understand. There is also a good technical drawing of a Sherman tank on page 147.

Overall, this book is written in a manner that makes it interesting not only to a veteran or a serving soldier but also to someone without a military background. It provides a good picture of what life was like as a soldier rather

than as an NCO or officer. For those with an interest in the Royal Canadian Armour Corps, it provides an interesting look at what a tank crewman's life was like in World War II. It is recommended as a good read.

Major Hall is a Deputy Director at the Army Simulation Centre in Kingston, Ontario.

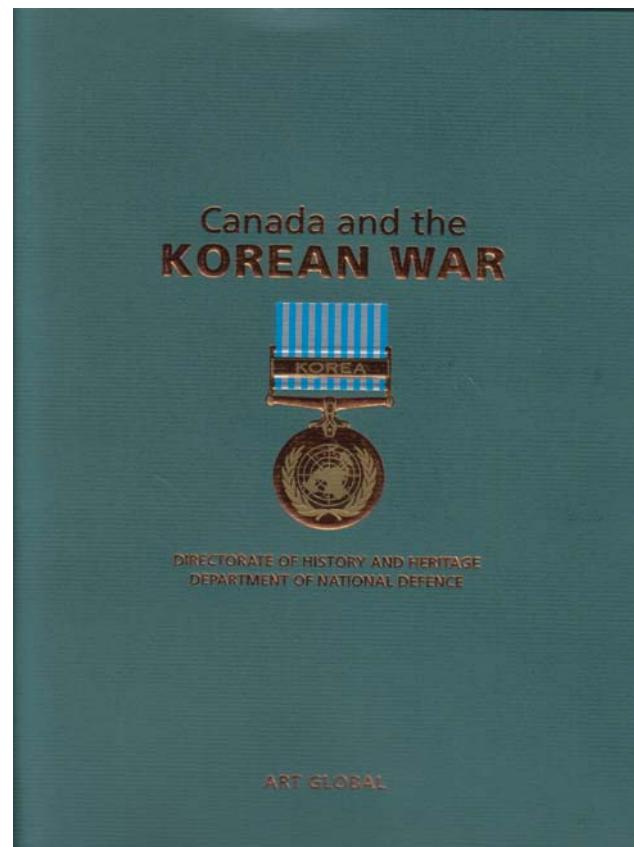


Remembering Korea: The Canadian Army Experience During the Korean War

Review Essay by Major Howard G. Coombs, CD

In the last year a number of publications examining the Canadian experience during the Korean conflict have been made available. Although unlike in format and style, these books are similar in that they are able to draw upon a large number of sources to dispassionately examine the events of fifty years ago. Reading them in conjunction with official histories such as Wood's *Strange Battleground: The Operations in Korea and Their Effects on the Defence Policy of Canada*¹ as well as the Army Headquarters (AHQ) Report No. 62, Canadian Participation in the Korean War, Part I: 25 Jun 50–31 Mar 52 and Report No. 72, Canadian Participation in the Korean War, Part II: 1 Apr 52–31 Jul 53 forms a complete package that provides a comprehensive modern dialogue on Canadian Army involvement in the Korean War. This discourse enables readers to address what were formerly gaps in the body of historical material concerned with Canadian Army operations during the Korean War.

William Johnston, in *A War of Patrols: Canadian Army Operations in Korea*,² provides a revisionist counterpoint to commonly accepted interpretations of the abilities of the hastily formed and deployed Special Force in comparison to follow on units that were led, for the most part, by long serving regular officers and non commissioned officers. Johnston, a historian with the Directorate of History and Heritage, Department of National Defence, demonstrates that the leaders of the Special Force had an active, aggressive approach that was not mirrored by the subsequent regulars, with a corresponding negative impact



on the tactical performance of the Canadian 25 Brigade from 1952 to 1953. Far from being the amateurish adventurers of popular myth, the units of the Special Force were professionally led by experienced leaders with a great

deal of Second World War experience and a clear understanding of the military profession, while later units were led by officers who for various reasons were deficient in the skills and attitude needed to dominate the enemy.³

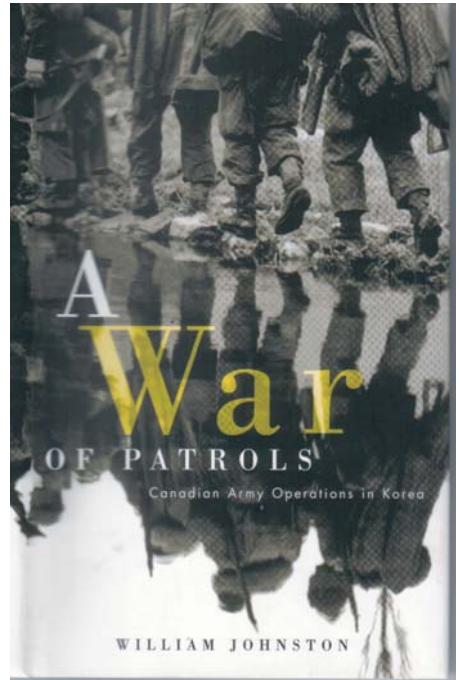
William Henry Pope supports aspects of Johnston's arguments in *Leading from the Front: The War Memoirs of Harry Pope*.⁴ Pope, an officer who served throughout the Second World War and Korean War with the Royal 22^e Régiment (R22^eR), has produced an admirable account of his service in both wars and the inter war period. An intelligent, outspoken officer, his memoirs are of importance for those interested in the Canadian contribution to the Korean conflict as Pope served with both 2 and 3 R22^eR and produced a much cited memorandum of the deficiencies of Canadian defensive and patrol procedures.⁵ In this analysis, forwarded to his brigade commander, Brigadier Jean V. Allard, he implicitly attributed these weaknesses to poor or inexperienced leadership. The requirement for tactical leadership to adapt and innovate is clearly outlined by Pope in the context of Korea.

A perspective that captures the experience of the individual infantryman and provides another

point of view to that of Johnston and Pope is Brent Watson's in *Far Eastern Tour: The Canadian Infantry in Korea 1950*.⁶ Watson has crafted a social history of the Canadian combatants from mobilization and recruitment, to preparatory training, deployment, operational employment, redeployment and demobilization. The emphasis is on the individual soldier "who must actually do the fighting and dying."⁷ However, unlike the revisionist assessment of Johnston, Watson perpetuates the legend of the swashbuckling, freebooting nature of the Special Force. Given that Watson interviewed hundreds of veterans, it is likely that this viewpoint was perpetuated by the collective memory of the participants. Nevertheless, it does not detract from his detailed examination of the lessons of the Korean War as they applied to the Canadian infantry.

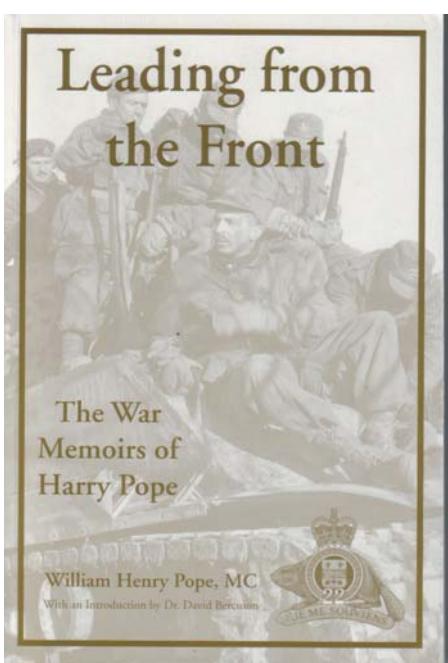
For a broader outlook that elaborates the national polices, military strategy and operational decisions that affected the three services and determined their employment, the Directorate of History and Heritage has published a commemorative history of the period, *Canada and the Korean War*.⁸ An ambitious work that attempts to deal with all major aspects of the Korean conflict, it successfully provides a readable history. Most facets of the Canadian experience are mentioned, and the book attempts to elaborate on the significant events of the conflict. It is a good general account of Canada's participation in Korea.

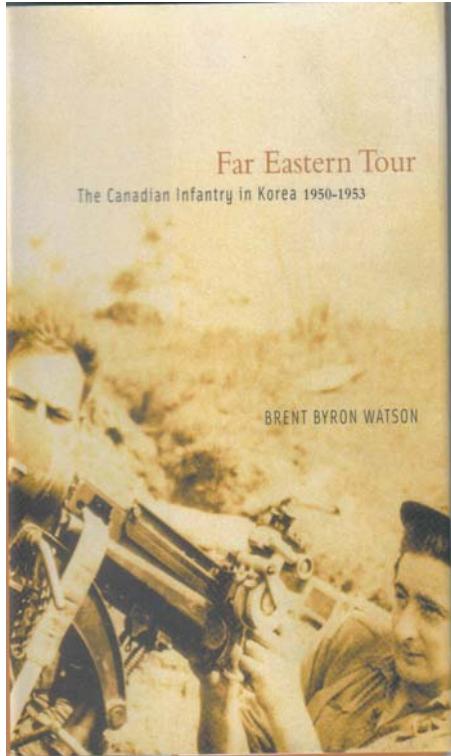
Of these four books, the most significant is Johnston's *A War of Patrols* as it makes a new contribution to the study of the Canadian experience. His methodical, detailed scrutiny of primary and secondary sources to provide a fresh perspective on the strengths and weakness of Canadian Army leadership and operations in Korea adds greatly to the current body of scholarship on this topic. Additionally, Johnston is able to illustrate a re-occurring truth of national policy through the last half century: "Canada's involvement in the



Korean War was simply the nation's contribution to an international standoff that one only read about in the newspaper."⁹ Because the vital interests of the country were not at risk, as in other instances of Canadian military involvement since that time, the armed forces of Canada were able to sustain themselves by voluntary recruitment and thus made a limited impression on the nation as a whole. Without the concerned involvement of Canadian society as a whole, the level of concern regarding the events in Korea was very low, with a corresponding impact on the Canadian Army. This lack of curiosity was mirrored by the actions, or lack thereof, during the passive defence of 1952 and 1953 and was in direct contrast with other more aggressive Commonwealth units. Johnston's objective was to provide a complete and contextual account of the Canadian Army campaigns during the Korean War¹⁰ and he does this with enormous success.

Watson and Pope provide excellent individual perceptions to Johnston's collective account, while the Directorate of History and Heritage work gives one an overarching chronological framework in which to place the events described. In many ways, Watson's *Far Eastern Tour* is





reminiscent of John Melady's *Korea: Canada's Forgotten War*,¹¹ with various first-hand accounts based on interviews with veterans and archival and other research. Like Melady's accounts of the war at sea, air and land, Watson has produced an admirable and in-depth explanation of what it meant to be a soldier during the Korean conflict. It is a description that is of great value to those seeking lessons from the experiences of the infantry soldier.

Pope's work, specifically its content concerning Korea, is a valuable tool to provide a critical examination of battalion leadership, tactics,

techniques and procedures during mid to high intensity defensive operations. *Leading from the Front* puts into perspective the need to aggressively train for the current war and institutionalize the lessons of combat. In many ways, it is an indictment of the lack of systemic impetus to innovation within the military institution. Pope is highly opinionated and provides his views as authoritative, though in hindsight they seem more right than wrong. Nevertheless, *Leading from the Front* is a provocative and thought provoking account of a talented infantry officer's career.

Canada and the Korean War is a well-researched work that adds little new scholarship to the body of historiography surrounding Canadian involvement in Korea but does effectively integrate all aspects of the conflict. In combination with a judicious selection of maps, photos and historical vignettes, it furnishes the general reader an easily digestible historical snapshot and understandable reference text. All the same, due to its breadth of topics, it is unable to provide in-depth or complete analysis of the events it depicts and should be utilized to orient oneself for further study as opposed to obtaining definitive explanations of occurrences.

General themes that emerge from reading these books lead to some conclusions about the Canadian way of war during Korea. Johnston and Pope both provide insights into the lack of adaptation and innovation in

1952 and 1953. Watson leaves us thoughts about the requirement to maintain standing expeditionary force capabilities in order to meet the requirements of national policy and avoid the dispatch of ill-prepared and equipped troops. While the Directorate of History and Heritage publication demonstrates that policy is at times predicated on alliances and that the linking of strategic ends, operational ways and tactical ends are not always a smooth, linear progression but can be at times a disjointed series of discrete measures. Furthermore, this publication demonstrates that military force is not always deployed in a coherent or decisive manner derived from military necessity, but rather it is determined by the needs of political authorities. All accounts make one reflect on military myths, particularly those involving the recruitment, deployment and employment of the Special Force. Taken as a whole, these publications enrich our understanding of the Canadian conduct of land operations during the Korean War and are well worth reading.

Major Howard Coombs is a Ph.D. candidate at Queen's University and a company commander with the Princess of Wales Own Regiment.



ENDNOTES

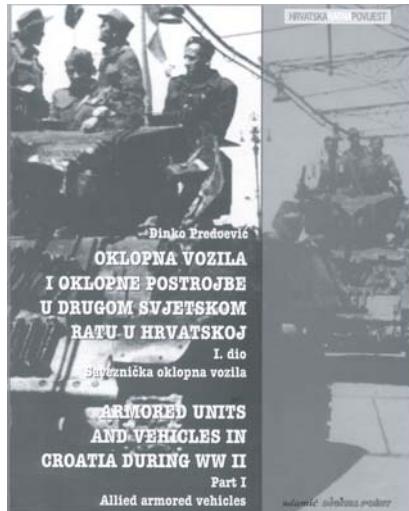
1. Lieutenant-Colonel Herbert Fairlie Wood, *Strange Battleground: The Operations in Korea and their Effects on the Defence Policy of Canada* (Ottawa: Queen's Printer, 1966).
2. William Johnston, *A War of Patrols: Canadian Army Operations in Korea* (Vancouver: UBC Press, 2003), 448 pages illustrated with 17 maps and 43 black and white photographs. \$45.00 (Cdn) cloth. ISBN 0-7748-1008-4.
3. Ibid., pp. xvii - xx.
4. William Henry Pope, MC, *Leading from the Front: The War Memoirs of Harry Pope*, with an introduction by Dr. David Bercuson (Waterloo, Ontario: The Laurier Centre for Military Strategic and Disarmament Studies, Wilfred Laurier University, 2002), 242 pages illustrated with six maps and figures, and 38 black and white photographs. \$34.00 (Cdn) cloth or \$24.00 (Cdn) paper. ISBN0-9688750-2-5.
5. Ibid., pp. 191 - 202.
6. Brent Byron Watson, *Far Eastern Tour: The Canadian Infantry in Korea 1950-1953* (Montréal and Kingston: McGill - Queen's University Press, 2002) 256 pages. \$34.95 (Cdn) or \$34.95 (US) cloth. ISBN 0-7735-2372-3.
7. Ibid., p. xiii.
8. Directorate of History and Heritage, Department of National Defence, *Canada and the Korean War* (Montréal: Art Global, 2002), 158 pages illustrated with 16 maps, colour plates and black and white photographs. \$39.95 (Cdn) cloth. ISBN2-920718-85-1. Note no author is cited for this publication.
9. William Johnston, *A War of Patrols*, p. 373.
10. Ibid., pp. xviii - ix.
11. John Melady, *Korea: Canada's Forgotten War* (Toronto: Macmillan of Canada, 1983.).

Books of Interest

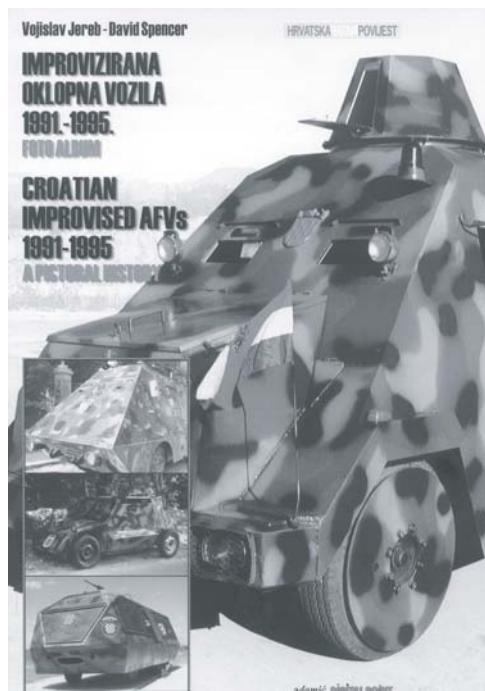
A selection of New and Recent Books for our Readers

Armour in the Balkans 1944-45 and 1991-1995

There are few titles available in the West dealing with armoured fighting vehicles in the Balkans during either the Second World War or the conflicts of the 1990s. Several titles have recently been published that shed further light on these subjects. All three titles are ideal for those interested in Balkan history, armour or modelling. The text and captions in three books are in English and Croatian and can be ordered through www.adamic.hr.



Dinko Predoevic. *Armored Units and Vehicles in Croatia During WWII. Part I: Allied Armored Vehicles*. Rijeka: Adamic-Digital Point, 2002. 112 pages with 207 images. ISBN 953-219-088-0. Volume II: Axis Armoured Vehicles under preparation. A fascinating study of the armoured brigade employed in Croatia during the Second World War. Includes photos, maps and details on each formation and accounts of all major operations, including the near clash with Allied forces at Trieste in 1945.



Jereb, Vojislav and David Spencer. *Croatian Improvised AFVs, 1991-1995: A Pictoral History*. Rijeka: Adamic-Digital Point, 2002. 96 pages with 353 images including a colour section. ISBN 953-219-025-2. Many readers of this journal will probably recognize some of the vehicles depicted in this book from previous service. This book provides details of over 250 partially and fully armoured "Mad Max" vehicles built for the Croatian Army in 1991 before the acquisition of purpose built armoured vehicles. The photos, text and drawings provide unparalleled detail on each.



Greguric, Boris and Vojislav Jereb. *Croatian Army Vehicles 1991-1995 Part I: Colours and Markings: A Pictoral History*. Rijeka: Adamic-Digital Point, 2001. 96 pages with 346 images including a colour section. ISBN 953-219-024-4. Volume II Types: A Pictoral History is also available. A detailed overview of the wide range of armoured and soft skinned vehicles and markings used by the Croatian Army from its creation in 1991 to 1995.

The Stand-up Table

Commentary, Opinion and Rebuttal

On “Competency-Based Management at DND”...

Major Roy Thomas (Ret'd) writes...

A recent *Maple Leaf* piece on competency-based management¹ sparked concern about a topic which I think should be aired in the pages of the Stand-up Table and give cause for debate in the Army.

“Combat can’t be taught—ya gotta learn it for yourself” is how John P. Irwin concludes his personal story of being a teenage tank gunner in combat as the Allies closed in on Germany.² The big arrows on the small maps of our military histories may obscure the truth of those final days of March and April 1945. Combat was intense where Irwin fought. Many of his buddies died, more in his own battalion in those last few months than I suspect that the US Army lost in the most recent combat phase of the Second Gulf War. (I’m not talking about the so-called peace support operational phase currently underway.) I should add that Mr. Irwin, or rather “Dr” Irwin, shed the trauma of his wartime experiences and went on to become a professor of philosophy at an American college in Pennsylvania.

Irwin’s anecdotal evidence made me think of the veterans that I knew when I was first commissioned. Among these were Lieutenant-Colonel Milbraith, of the Strathconas, a trooper in 1939, recipient of a battlefield commission in 1943; Major Burger, with the South Alberta Regiment during D-Day but with the Straths when I met him; Major Nick Nicolay, D-Day troop leader, Fort Garry Horse; Major Stu Corsan, Second World War infantry and then member of the Royal Canadian Dragoons; and others. I wondered what they would say about the success of competency-based management (CBM) at DND.

The *Maple Leaf* article noted how “DND has made significant strides through initiatives like Competency-Based Management to ensure that its workforce has the necessary competencies to achieve DND’s current and future business objectives.” It made me wonder what were

the business objectives of Dr Irwin as he struggled to survive combat, which he said never seemed to end.

How do you measure the competency of people to endure fatigue and even more fatigue to fight effectively, as both the retreating Germans and the advancing Americans seemed to do? Will CBM workshops inspire such performances under fire? Indeed, any competent judge of the situation in 1945 would have gauged that further resistance by the Germans was futile by any business standards or indeed any military appreciation. Somehow that message didn’t get through to some of the people actually pulling the triggers.

Obviously, business objectives and CBM have their role if they result in bringing bigger battalions and better guns to bear on the opponent in whatever spectrum of war Canadians find themselves. CBM workshops, if they contribute to our tank gunners or soldiers winning in combat, are indeed welcome. Otherwise to me, as a simple retired soldier, there seems to be a disconnect between the conclusions drawn by John Irwin and the self-congratulatory piece on Competency-Based Management that appeared in the *Maple Leaf*.

What do you think?....



ENDNOTES

1. “Competency-Based Management at DND,” *Maple Leaf*, Vol.6, No.23 (18 June 2003), p. 15.

2. John P. Irwin, *Another River, Another Town: A Tank Gunner Comes of Age in Combat—1945* (New York and Toronto: Random House, 2002), p.176.

Commentary on “A Self-Evident Truth: Special Operations Forces, Intelligence and Asymmetric Warfare” by Lieutenant-Colonel Bernd Horn, *The Army Doctrine and Training Bulletin*, Volume 5, No. 4 (Winter 2002-2003).

Major Rohan Maxwell, currently serving with the OSCE Mission in Sarajevo, writes...

As Lieutenant-Colonel Horn ably demonstrates, special operations forces (SOF) are very effective under the right circumstances. For this very reason, they should not be frittered away on tasks that conventional troops could execute equally well. While SOF can certainly undertake

all of the missions described in this article, I believe that their use should not be considered unless it has been clearly established that conventional forces cannot do the job. This may seem yet another “self-evident truth,” but there are sometimes non-rational forces at work. For example, politicians may choose SOF over conventional forces because they see SOF as “sexier”; within the military, SOF may lobby for missions to justify their budgets or their continued existence or simply to keep their highly trained troops from getting bored. No matter how large a country’s armed forces, SOF are not numerous, and they are not cheap—not on a cost-per-trained-soldier basis. For

this reason, conventional forces should be used wherever possible, and SOF hoarded for the tasks that only they can undertake with a reasonable expectation of success. Any discussion of specific tasks would of course depend on the situation, but I offer the following as food for thought.

- ◆ **Training of Foreign (Conventional) Troops.** If secrecy is not an issue, why use scarce SOF to train foreign troops? Well-trained conventional troops could do the same job. This is particularly true of overt, long-term security assistance programmes.
- ◆ **Civil Affairs.** Many civilian international organizations react unfavourably to the use of SOF in a civil affairs capacity. Some of

this dissension is undoubtedly rooted in the oft-cited “culture clash” between military personnel and civilians, but some of it is legitimately based on the fact that SOF use of unconventional attire, and civilian pattern vehicles can blur the line between soldier and civilian, particularly if someone is looking for a pretext to justify the shooting of civilian humanitarian workers.

- ◆ **Coalition Support.** As with the training of foreign troops, this is not necessarily an SOF task. Conventional troops could train coalition partners in tactics and techniques and provide communications. This is the case even if the “partners” are somewhat unconventional

themselves—for example, it didn’t necessarily have to be SOF with the Kurds in Northern Iraq.

- ◆ **Humanitarian De-mining Activities.** SOF can certainly teach the techniques of mine / Unexploded ordinance location and disposal; however, so can conventional troops. Neither group is particularly well suited to implementing large-scale humanitarian de-mining programmes, but they can certainly teach the core skills.



Reply to Dr. Sean Maloney’s commentary in *The Army Doctrine and Training Bulletin*, Vol. 6, No. 2, Summer 2003.

The reviewer Mark Gaillard writes:

In his commentary on my review of his book “*Canada and UN Peacekeeping—Cold War by Other Means, 1945—1970*,” the author, Dr Maloney takes issue with my contention that Lester B. Pearson, not Major General E.L.M. Burns, was the decisive actor in the creation of the United Nations Emergency Force. His view as stated in his book, is that “...the credit for the creation of UNEF was somewhat misplaced.” The word “misplace” is defined in the *Oxford English Reference Dictionary* as “to put in the wrong place” and “to bestow (affections, confidence, etc.) on an inappropriate object.”

In his commentary, Dr Maloney goes further than he did in his book, stating categorically that “Mike Pearson did not invent UN peacekeeping” and that “Mike Pearson did not invent UNEF.”

I do not have the benefit of an extensive library of reference material on this subject, so to learn more about this, I re-read the relevant portion of the “official history” of UN peace-keeping: *The Blue Helmets—A Review of United Nations Peace-keeping*, 3rd edition.¹ Here I read that:

In October 1956, the United Nations faced a major crisis... The Organization reacted to the crisis with speed and firmness and, to overcome it, conceived a new form of peacekeeping and set up its first peace-keeping force. This historic development was made possible mainly through the vision, resourcefulness and determination of Secretary Dag Hammarskjold and Mr. Lester Pearson, who was at the time Secretary for External Affairs of Canada...

The Israeli forces crossed the border on the morning of 29 October, advancing in three columns towards El Arish, Ismailia and the Mitla Pass. In the early hours of 30 October, the Chief of Staff of UNTSO, Major-General E.L.M. Burns (Canada) called for a cease-fire and requested Israel to pull its forces back to its side of the border... On 31 October, France and the United Kingdom launched an air attack against targets in Egypt, which was followed shortly by a landing of their troops near Port Said at the northern end of the [Suez] Canal...

The first emergency session of the General Assembly... was convened on 1 November 1956. In the early hours of the next day, the General Assembly adopted, on the proposal of the United States, resolution 997(ES-I), calling for an immediate cease-fire, the withdrawal of all forces behind the armistice lines and re-opening of the Canal. The Secretary-General was requested to observe and report promptly on compliance to the Security Council and to the General Assembly, for such further action as those bodies might deem appropriate in accordance with the United Nations Charter.

The resolution was adopted by 64 votes to 5, with 6 abstentions. The dissenters were Australia and New Zealand, in addition to France, Israel and the United Kingdom. In explaining Canada’s abstention, Lester Pearson stated that the resolution did not provide for, along with the cease-fire and withdrawal of troops, any steps to be taken by the United Nations for a peace settlement, without which a cease-fire would only be of a temporary nature at best.

Before the session, Mr. Pearson had had extensive discussions with the Secretary-General and he felt that it might be necessary to establish some sort of United Nations police force to help resolve the crisis. Mr. Pearson submitted to the General Assembly, when it

convened the next morning, a draft resolution on the establishment of an emergency international United Nations force.

The Canadian proposal was adopted by the General Assembly on the same morning and became resolution 998 (ES-I) of 4 November 1956, by which the Assembly:

Requests, as a matter of priority, the Secretary-General to submit to it within forty-eight hours a plan for setting up, with the consent of the nations concerned, of an emergency international United Nations Force to secure and supervise the cessation of hostilities...

The voting was 57 to none, with 19 abstentions. Egypt, France, Israel, the United Kingdom and the Soviet Union and Eastern European States were among the abstainers.

Immediately after the Assembly authorized the Force, the Chief of Command, General Burns, who was in Jerusalem at the time, selected a group of UNTSO observers who began planning of the new Force. The Secretary-General approached the Governments of the potential participating countries to obtain the required military personnel.

From this recitation of the events of early November 1956, the editors of *The Blue Helmets* concluded that:

During the first emergency special session, the General Assembly had adopted a total of seven resolutions. By these resolutions, the Assembly gave the Secretary-General the authority to bring about the cessation of hostilities in Egypt and the withdrawal of foreign troops from Egyptian territory with the assistance of a new type of peace-keeping machinery, the United Nations peace-keeping force. The idea of such a force,

which was to have such an impact on the work of the United Nations for the maintenance of international peace and security, came initially from Mr. Lester Pearson. Secretary-General Dag Hammarskjold made it a practical reality...

From this account, it seems clear that Lester B. Pearson came up with or at least brought the idea of an emergency international force to New York; he abstained in the cease-fire resolution vote in order to secure authority for the UNEF; he convinced the Secretary-General and other nations to support this idea; he drafted the text of the UNEF resolution; he introduced it as the Canadian proposal to the General Assembly; and then he worked to ensure that the resolution was adopted by the General Assembly with the widest possible support. If any one person can be said to have conceived of or “invented” the “new form of peace-keeping,” the UNEF, it was Lester B. Pearson.

The credit for the creation of the UNEF has been rightly assigned. As historian J.L. Granatstein put it:

Before 1956, UN and other peacekeeping operations were modest efforts, of limited success, and carried out by relatively modest groups of observers; after 1956, peacekeeping was often a large-scale operation, regrettably also of limited success, and carried out by infantry, armoured reconnaissance and service troops, as well as air force personnel, sometimes in combat roles. The difference is marked, and much of the change had occurred because of Pearson's initiative, diplomatic skill and assessment of the need at Suez.²

Why is it necessary then to “seriously reassess the relative importance of Lester B. Pearson in the development of UN peace-keeping?” It is true that General Burns and the other senior military personnel who were involved should be given due recognition for conceptualizing and implementing Canadian peace-keeping operations in Suez and elsewhere. But in recognising their contribution, does it follow that Pearson’s accomplishment and the recognition of his contribution has to be diminished or denied?

As I noted in my review, Dr Maloney’s book is timely. It convincingly sets the historical record straight as to the actual political, strategic and military reasons for Canadian participation in UN peacekeeping operations. I recommend Dr. Maloney’s book to everyone who is interested in the history and the practice of Canadian foreign policy and UN peace-keeping. His insight has certainly helped me in my work as a Canadian foreign service officer. A minor difference of opinion over Lester B. Pearson’s place in that history in no way diminishes the importance and worth of this book.

Mark Gaillard is a foreign service officer in the Department of Foreign Affairs and International Trade. He is a reserve infantry officer and graduated from RMC with an MA in War Studies in 2000. He is currently on a diplomatic assignment as First Secretary and Deputy Political Advisor with the Canadian Joint Delegation to NATO in Brussels, Belgium.



ENDNOTES

- United Nations, *The Blue Helmets—A Review of United Nations Peace-keeping*, 3rd ed (New York: United Nations Department of Public Information, 1996), pp.35-40.
- J.L. Granatstein, *Peacekeeping: Did Canada Make A Difference? And What Difference Did Peacekeeping Make To Canada?* in J. English and N. Hillmer, eds., *Making a Difference? Canada's Foreign Policy in a Changing World Order* (Toronto: Lester Publishing Limited, 1996), p. 222.

On Colonel Mike Cessford on Lieutenant-Colonel Chuck Oliviero (Ret'd) on the Canadian Army in WWII.

Bill McAndrew writes...

Tis nice to see the two Colonels sniping away on what? Is it the fighting abilities of Canadian soldiers? Who or what won WWII? Tactical doctrine? Apples or oranges?

It is especially gratifying that they use the Staff College's battlefield studies as their platform.

Cessford seems to have missed Oliviero's point: the nature and role of doctrine. Cessford recalls John Dougan's brilliant leadership at San Lorenzo. On that same study, I recall Dougan saying how disappointed and frustrated he was when his company's successes at San Lorenzo and earlier at Monte Luro had not been exploited. The Germans were there for the taking, he told us, but he waited in vain for a senior officer to come up front to see and seize the opportunity. The consequence of inaction was that the Germans gained time to regroup and the Canadians spent the next

several months fifty kilometres up the road in the swamps of the Po River.

There is no doubting the fighting abilities of those Canadian soldiers, some of whom were being recycled prematurely from convalescent depots. But was their guiding doctrine as good as they were? Oliviero raises some pertinent questions that may account for John Dougan's dismay. Why didn't a senior officer appear, look and act? Was he looking at the report line for the next tactical bound for the next limited objective conforming to the plan? Were commanders and staffs trained flexibly to exploit opportunities or to pause and regroup after each tactical success? If so, was that a doctrinal limitation?

The compilers of a 1944 army training manual thought so: "Our own tactical methods are thorough and methodical but slow and cumbersome," it

concluded. "In consequence our troops fight well in defence and our set-piece attacks are usually successful, but it is not unfair to say that through lack of enterprise in exploitation we seldom reap the full benefits of them."

These and similar universal questions of men in combat formed the core of discussions during the old Staff College battlefield studies. It's a pity that the Army cashed out of that professional investment.

